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A longitudinal investigation of the relationship between adolescent alcohol involvement and self-esteem.

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A LONGITUDINAL INVESTIGATION OF THE RELATIONSHIP BETWEEN ADOLESCENT ALCOHOL INVOLVEMENT AND SELF-ESTEEM

A Dissertation Presented

by

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ABSTRACT

A LONGITUDINAL INVESTIGATION OF THE RELATIONSHIP

BETWEEN ADOLESCENT ALCOHOL INVOLVEMENT

AND SELF-ESTEEM

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The purpose of this study was to determine if there was a significant correlation between adolescent alcohol involvement and self-esteem and if there was, which variable was antecedent. A group of seventh graders were followed and assessed in 7th (N=82), 8th (N=60), 9th (N=40), and 12th (N=45) grades using the Coopersmith Self-Esteem Inventory (SEI) and the Adolescent Alcohol Involvement Scale (AAIS).

Pearson - R correlation coefficients were calculated each year of the study to determine if there was a statistically significant negative correlation between the AAIS scores and the SEI scores and the SEI subscale scores at any one time. To determine which variable was the antecedent, cross lag panel correlations were examined between all six pair of grades (7-8, 7-9, 7-12, 8-9, 8-12, and 9-12). Only the scores of the subjects who were

present in both pairs of years in each comparison were used.

The subjects' scores on the AAIS showed an increasing trend from grade 7 to grade 12 by both males and females with gender differences in grade 9 where females reported higher levels of alcohol use. The SEI scores of both males and females followed an increasing trend from grade 7 to grade 12 with gender differences in grades 8, 9 and 12. In these three grades the female SEI scores were significantly lower than those of their male classmates.

The calculation of the initial sets of correlation coefficients revealed that there were significant negative correlations between the AAIS scores and the total SEI scores and several of the subscale scores in grades 7, 8 and 9 but not 12. The cross lag correlations suggested that variation in self-esteem scores precedes inverse variation in alcohol involvement scores. In particular, lowered self-esteem as measured by the Peer, School and Self subscales on the SEI preceded higher levels of alcohol involvement. The one exception to this was for eighth grade boys where higher use of alcohol preceded lowered school self-esteem in grade 9.

Based on the findings of the study, implications for the prevention and treatment of alcohol abuse were discussed. Recommendations for further study were also made.

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CHAPTER 1

PROBLEM

1.1 Introduction

The purpose of this research is to investigate the relationship between adolescent alcohol involvement and self-esteem. My interest in this topic has been stimulated by several factors, both professional and personal.

Professionally, this researcher has worked as a classroom teacher, as an alcohol and drug abuse counselor in out-patient and residential settings, and as a substance abuse prevention and early intervention specialist in a public school setting. Of the hundreds of adolescents with whom this researcher has worked who had problems with alcohol or drugs, or who engaged in self-defeating or self destructive behaviors the vast majority verbalized feelings of low self-esteem. The question arises: Did the low self-esteem precede or develop subsequently to alcohol or drug abuse or self destructive behavior?

On the personal level I am someone who experienced problems with alcohol abuse during my adolescent and early

adult years. It has been over 15 years since I have used alcohol or any other psychoactive drugs (except caffeine). From my own experience and the experience of having heard the stories of hundreds of other recovered alcoholics at meetings of a 12 step self help organization an interest and curiosity was piqued about this relationship between alcohol abuse and self-esteem. Almost invariably, the speakers at such meetings referred to having low self-esteem before they started drinking. My own recollection of my pre-drinking sense of self was that of low self-esteem. Again the question that arises is whether the sense of low self-esteem preceded the alcohol abuse or vice versa. Perhaps the recollection that persons, myself included, express of having low self-esteem prior to starting drinking is really a distorted memory, recalled through the lens of years of heavy drinking. Perhaps the low self-esteem developed from years of drinking heavily and behaving at times irresponsibily.

Vaillant's (1983) research suggests that the latter explanation is the valid one. His conclusion suggests that it is the retrospective memory of the alcohol abuser that attributes low self-esteem to precipitate the heavy drinking. He states that what actually occurs is that there are no premorbid differences between those who become abusers of alcohol and those who do not. It is the alcohol abuse that causes the pathology that persons retrospectively label as causes.

Zucker and Gomberg (1986) re-analyzed Vaillant's (1983) data and arrived at a different conclusion. They stated that Vaillant's conclusions were not warranted from the data and that there were premorbid differences in the behavior, family background and psychological states of those who became alcohol abusers.

It would appear that there is a significant correlation between alcohol abuse and low self-esteem, but that no unequivocal conclusion concerning the precedence of the variables can be drawn. The research to be described here is a longitudinal study of adolescents and the relationship between self-esteem and alcohol abuse. The data were analyzed to inquire if alcohol abuse or low self-esteem came first.

1.2 Statement of The Problem

The purpose of this study is to investigate in a longitudinal manner the relationship between adolescent alcohol involvement and self-esteem and examine the issue of precedence. There are two goals to this study. The first will be to determine the strength and direction of the correlation between the self-esteem of adolescents and their relationship with alcohol. The second will be to determine that if such a relationship exists, is it a sequential relationship, and if so in what direction.

This researcher hypothesizes that there is a strong negative relationship between the two variables and that

this relationship is causal in both directions. That is, adolescents with low self-esteem are more likely to become harmfully involved with alcohol than adolescents with high self-esteem, and also, that adolescents who become harmfully involved with alcohol will experience a decrease in their level of self-esteem.

1.3 Definitions of Terms

1.3.1 Self-Esteem

Operationally, for purposes of this research, self-esteem will be defined as that construct which is measured by persons completing the Coopersmith Self-esteem Inventory (Form B) (SEI) (1959, 1967, 1981). Self-esteem as measured on the SEI is usually classified as high, medium or low. Coopersmith (1981) stated that "the term self-esteem will refer to the evaluation that a person makes and generally maintains with regard to him - or herself" It reflects an attitude of self approval or disapproval and beliefs the individual holds concerning self worth.

1.3.2 Adolescent Alcohol Involvement

Adolescent alcohol involvement refers to the degree to which an adolescent rates him or herself as involved with alcohol as measured by the Adolescent Alcohol Involvement Scale (AAIS) developed by Mayer and Filstead (1979). This scale measures alcohol involvement and classifies drinkers into one of four categories: 1) Never

or rarely drink; 2) Fairly regular drinker with no apparent problems; 3) Alcohol misusers; and 4) Alcoholic like drinkers.

1.4 Significance of the Study

The results of the study will very possibly have important implications for the prevention of, early intervention with and treatment of alcohol and other drug abuse problems.

If the hypothesis that low self-esteem is significantly correlated with adolescent alcohol abuse is supported this will contribute to the body of literature which reports such a correlation.

If the hypothesis that low self-esteem precedes and is a contributing factor of alcohol misuse is supported, then efforts toward the prevention of alcohol abuse might focus on raising the self-esteem of children who are assessed to have low self-esteem.

If it is also demonstrated that heavy alcohol use lowers levels of self-esteem, then increased efforts at raising the level of self-esteem of those in treatment for alcohol abuse might enhance such treatment and perhaps help prevent relapse.

The most significant aspect of this research is its longitudinal approach. Most of the research concerning the relationship between alcohol involvement and self-esteem is correlational only or retrospective. This study

follows a group of students from grade seven until graduation from senior high school in grade twelve.

CHAPTER 2

REVIEW OF THE LITERATURE

2.1 Introduction

This review will be divided into several parts. The initial part will describe the literature from 1950 to 1980, while the second part will address the literature from 1980 to the present. The literature in each time frame will be examined, looking at several issues: Is there a correlation between self-esteem and alcohol abuse?; Are self-esteem differences dependent upon the level of alcohol use?; Is alcohol abuse a consequence of low self-esteem?; Is low self-esteem a consequence of alcohol abuse?

2.2 Review of The Literature from 1950 - 1980

A number of researchers describe a relationship between self-esteem or self concept and alcoholism. Brown (1980), using the 16 Personality Factor Questionnaire measured anxiety, depression and self-esteem in 38 alcoholics and 20 social drinkers. He found that the alcoholics were significantly more negatively extreme in all three measures (ie. depression, anxiety and self-

esteem) than the social drinkers. These differences, while statistically significant must be interpreted with caution since the sample was small and was limited to adult males in New Zealand.

Charalampous et. al. (1976) studied 100 subjects who had been arrested for driving under the influence. Through the use of interviews by a psychiatrist and an alcoholism counselor, diagnoses of alcoholism were given to 19 of the subjects. They found that a significantly higher percent (23%) of the alcoholics scored lower on the Rosenberg Scale of Self-Esteem than did non-alcoholics (7%). Item analysis indicated that a significant difference on the responses to two items: "I certainly feel useless at times" and "At times I think I am no good at all". An interesting finding of this study was that those who were diagnosed as alcoholic and were seeking treatment had much lower levels of self-esteem than those who were diagnosed as alcoholic and not seeking treatment. Perhaps those diagnosed as alcoholic and not seeking treatment had higher self-esteem because they had not as yet experienced as much negative consequences due to their drinking. When they experienced more negative consequences they might experience a lowering of their level of sel-esteem and also seek treatment. The limitations of this study are the small size of the sample, the non-representativeness of the sample since all persons in the study had been arrested for driving

under the influence and the failure of the researchers to provide the diagnostic criteria by which the diagnosis of alcoholism was made. In addition to these limitations, only 19 of the subjects were female and no description of gender differences was presented.

Using the Tennessee Self Concept Scale (TSCS) and the Self-Multi-Attitude-Test, Yakichuk (1978) compared the responses of 46 alcoholics and 59 non-alcoholics and found that alcoholics viewed their bodies, appearances and sexuality less favorably than did non-alcoholics. He also found that alcoholics perceived that they had less moral worth and were more dissatisfied with their religion or lack of it than were non-alcoholics. In this same study, alcoholics were found to have feelings of less worth and adequacy, both personally and as family members, than non-alcoholics.

The findings of Pushkash and Querski (1980) corroborated other researchers' conclusions regarding the alcoholic's negative views of self but expanded their research to include the alcoholic's views of significant others, those significant others being fathers, mothers and spouses or boy/girl friends. They administered the Michill General Ability Test (MGAT), the Michill Adjective Rating Scale (MARS) and the Michigan Alcoholism Screening Test (MAST) to 100 subjects. The sample were 50 persons (M=25, F=25) in treatment for alcoholism and 50 (M=25, F=25)) non-alcoholic controls. They concluded that the

alcoholics viewed their fathers as more unhappy, less sociable and less productive and persistent; they viewed their mothers as less happy, and less productive and persistent; and they viewed their spouses (or boy/girl friends) as more unhappy and less sociable than the non-alcoholics. There are several questions one might ask concerning these results: 1) Since these were retrospective perceptions of the significant others in the alcoholics lives, what were their pre-morbid perceptions of others?; and 2) How accurate are the perceptions of alcoholics, considering the distortion of perception related to alcohol abuse?

Gross (1970) using the Tennessee Self Concept Scale compared 140 adult male alcoholics in treatment at a VA hospital to the standardization sample (N=625) found in the TSCS manual. His results indicate that the alcoholics differed significantly from the reference group in a negative direction on the total scale and on nine of the subscales: Identity, Self-satisfaction, Behavior, Physical Self, Moral-Ethical Self, Personal Self, Family Self, and Social Self, and differed in a positive direction on the Self-criticism scale. This study marked one of the first empirical studies that with a fairly large sample corroborated the clinical impression that alcoholics had lower levels of self-esteem than non-alcoholics.

Heilbrum and Schwartz (1980) studied the responses on the Gough Adjective Check List of 40 persons (M=25,

F=15) in outpatient treatment for alcoholism and 26 controls and found that both men and women alcoholics had lower self-esteem than non-alcoholics, but that men used a rationalizing defense style to deny the effects of their drinking behavior on themselves and those around them. This defensive style mitigated somewhat the effects of the lowered self-esteem.

Although some of the subjects in the above cited studies were women, most of them were men. Concerning women who experience alcohol problems, Wood and Duffy (1966) using a series of three clinical interviews of 69 females in treatment for alcoholism found that they had low levels of self-esteem as well as a sense of inadequacy and worthlessness. From their interviews they developed a modal pattern of the alcoholic woman describing a cold domineering mother, a warmer but alcoholic father, a miserable self image, a cold domineering husband, and a resort to alcohol patterned after their fathers' drinking. The main criticism of this and most of these studies is that the information is gathered retrospectively. Did the drinking contribute to the difficulties described or vice versa? Did the drinking alter the retrospective memories of childhood? In a later section of this paper some prospective studies will be described.

While it is a commonly held belief that female alcoholics have lower self-esteem than male alcoholics, Clarke (1974) did not find evidence to support this

conclusion. Her comparisons of the levels of self-esteem between 20 female and 20 male alcoholics using the Q-Sort method to determine discrepancies between real self and ideal self demonstrated no significant differences.

While there are differing opinions as to whether low self-esteem precedes alcoholism or alcoholism is a consequence of low self-esteem, Jellinek (1952), from his analysis of the results of a detailed questionnaire that he administered to 2,000 alcoholics, concluded that loss of self-esteem was a consequence of alcoholism. This seems contradictory to his statement in the introduction to the article where he states that excessive drinking in both types of alcoholics he was describing is symptomatic of underlying psychological or social pathology.

Nocks and Bradley (1969) found that self-esteem seemed to decrease as the duration of the drinking increased. Others believe that the alcoholic has low self-esteem to begin with and drinks to compensate for this. Using the Park Questionnaire of Problem Drinking and the Gough Adjective Check List, Williams (1965) study of 68 male college students demonstrated that problem drinking was positively associated with self-criticism and negatively associated with self-acceptance and with real - ideal-self correspondence. From these findings, Williams concluded that the low self-esteem of the problem drinker preceded alcoholism as described in Jellineks sample of 2,000 alcoholics. The difficulty with the

conclusion from this study is that there are no data describing the level of self-esteem of the problem drinkers before they developed problem drinking patterns.

Parington (1970) found that alcoholics consider themselves to be different people when sober than when under the influence of alcohol. They report liking themselves better when under the influence. In a study of 10 lesbian alcoholics, Diamond and Wilsnack (1978) found using intensive interviews that while the women had low self-esteem, drinking increased their sense of power and enhanced their self-esteem. The small sample and its non-representativeness would suggest that caution be used in generalizing the results.

Berg (1971) found in a study comparing 40 male alcoholics in treatment with 40 non-alcoholic social drinkers that the self concepts of alcoholics were lower than those of non-alcoholics. He arrived at this conclusion using the Q-Sort method, the Adjective Check List and a Drinking Questionnaire. However, after drinking, the self concepts of the alcoholics improved, while those of the non-alcoholics decreased. It could be concluded that alcoholics use alcohol as a means to enhance their self-esteem. Again based on the non-randomness of both the sample and the control groups, caution must be made about the ability to generalize these conclusions to all alcoholics or all non-alcoholics. That is, are alcoholics in treatment similar to or

different from alcoholics not in treatment in their self perceptions?

A study by Vanderpool (1968) of 100 male alcoholics with a mean age of 43.6 years in two treatment programs indicated that the alcoholic has a poor self concept when sober and an even poorer one when drinking. The 100 subjects were separated, based upon the treatment program in which they were clients, into an experimental group and control group and administered the Adjective Check List and Tennessee Self Concept Scale at four different times over a two week period. The experimental group was abstinent from alcohol during tests I and IV, while drinking just prior to tests II and III. The control group was abstinent thoughout the whole testing process. The results support the conclusion that when the alcoholic drinks there is a resulting decline in perceptions of self-esteem, self confidence and self-acceptance, adequacy, social worth, and tolerance to stress and strain. This decline reinforces the already low levels of self-esteem described by the subjects.

Several studies were found which related drug usage, dependence or addiction to self-esteem or self concept. However, the evidence in the literature is inconsistent on whether personality problems predispose a person to drug abuse or vice versa. Manganiello (1980) studied the responses of 45 white male heroin addicts in a residential treatment program using the Tennessee Self Concept Scale,

the Future Events Test and Rotter's Internal-External Locus of Control Scale. He compared their responses to those of 50 white high school seniors with no history of hard drug use. He found that heroin addicts had lower self-esteem, shortened future time perspective and an external locus of control than non-addicts. The non-randomness and exclusivity (all white male) of the subjects should again caution one in the generalization of these results.

Gossop's (1977) findings in a study of 55 drug users and 16 non-user controls concur with this conclusion that addicts have lower levels of self-esteem than non-addicts. Using a semantic differential form for comparing self and ideal-self concepts he not only demonstrated that the drug users in the study had lower levels of self-esteem than the non-users, but also that the self-esteem of the female users was even lower than that of the males.

Segal, Rhenberg and Sterling (1975), investigated the levels of self-esteem using the Tennesse Self Concept Scale in 3 groups of female college students ages 16-39. The three groups were categorized as drug users (N=54), alcohol users (N=82) and non-users of either drugs or alcohol (N=64). They found that those who used drugs had lower self concepts than alcohol users or non-users of either alcohol or drugs. They also reported that the alcohol users had lower self concepts than the non-users.

Carrol et. al. (1978) conducted a study over a 6 month period with 334 male clients, 178 diagnosed as alcoholics and 156 as drug addicts who had presented themselves for treatment in a residential treatment program. Using the Tennesse Self Concept Scale their levels of self-esteem were compared and it was found that there were more similarities than differences between the two groups regarding their self concepts. From this study it can be inferred that what is said concerning the relationship between self-esteem or self concept and drug abuse may also be applied to the relationship between self-esteem or self concept and alcohol abuse.

Some adolescent studies were found that investigated the relationship between adolescent alcohol involvement and self-esteem or self concept. Huntwork and Ferguson (1977) in a study of 1,067 adolescent males and 1,323 adolescent females concluded that scores on the Development Self Concept Scales could predict beer, wine, liquor, cigarette, marijuana (males only) and LSD (males only) use. A much greater percent of students whose self concepts fell below the norm used the above listed substances than students whose self concepts were above the norm.

Allworth (1978) found that students who drank 20 or more times in a preceding year showed greater feelings of alienation than students who drank less than that. This gives rise to the question of whether or not alienation is

related to self-esteem. Although Allworth (1978) did not investigate the relationship between alienation and self-esteem. Blane, Hill and Brown (1968) conducted a study in which measures of alienation, self-esteem, and attitudes toward temperate and irresponsible alcohol use were administered to 526 (M=256, F=270) high school students in a rural school setting in northern New England. The scales used were the Williams' Attitudes Toward Temperate and Irresponsible Use of Alcohol, a modified version of the Dean Alienation Scale and for self-esteem, the Feelings of Inadequacy Scale. The results indicated a positive linear relationship between alienation and favorable attitudes toward irresponsible alcohol use. The expected negative correlation between self-esteem and attitudes toward irresponsible use of alcohol did not occur despite the high negative correlation between alienation and self-esteem. However it must be kept in mind that they were measuring attitudes toward irresponsible use, not actual use.

Mitic (1980) conducted a study of 411 students aged 12 - 18, investigating alcohol use and self-esteem. He reached several conclusions: 1) regular drinkers (with no problems associated with their drinking) had higher overall self-esteem than abstainers, occasional drinkers and potential problem drinkers; 2) in the area of peer self-esteem, the regular drinkers and the potential problem drinkers scored highest; and 3) potential problem

drinkers had academic self-esteem scores lower than the drinkers in the other three categories.

Kaplan (1977) demonstrated that deviant response patterns were associated with an antecedent increase in negative self-attitudes. The subjects in this study were 3,148 seventh grade students who were given a questionnaire three times (T1, T2, T3) at annual intervals. This questionnaire included a seven item self-derogation scale and self reports in regard to 22 deviant behaviors, including alcohol and drug usage. Kaplan found that in all cases, subjects who reported engaging in the deviant behavior had higher measures of self-derogation initially and those who continued the deviant behavior had increases in their reports of self derogation. This study is extremely critical in that the data were collected over a period of three years and can be considered prospective in nature.

This brief review of the literature from 1950 to 1980 indicates that while there is considerable evidence to support a strong correlation between adolescent alcohol involvement and negative self-esteem more research is necessary due to the fact that all of the studies cited, with the exception of Kaplan (1977), which investigated the relationship between self-esteem and alcohol use and abuse were of a retrospective nature. Until more longitudinal, prospective studies are conducted it can only be speculated as to which variable influences the

other. Perhaps the relationship is a confounded one in that low self-esteem precedes alcohol misuse in some cases and in other cases lowered self-esteem is a consequence of alcohol abuse. The studies in this section and those to be described in the next section will be summarized in a table at the end of this chapter.

2.3 Review of The Recent Literature from 1981-1989

In the review of the recent literature there were a number of studies found that support the hypothesis that there is a significant correlation between adolescent alcohol and drug abuse and low self-esteem.

Pandina and Schuele (1983) studied 1,960 twelve to eighteen year old students and compared them with 224 twelve to eighteen year olds who had been referred for treatment for alcohol or drug misuse. Using the SCL-90, Piers-Harris Children's Self Concept Scale, a substance use involvement scale, and a sociodemographic questionnaire the subjects were assessed to determine if psychological distress, perceived self-esteem, perception of parental involvement and socially evaluated negative events were related to their degree of substance use. Their results indicated that higher levels of substance use were associated with higher levels of psychological distress and parental control, and lowered perceptions of parental love or warmth and low perceptions of self-esteem. It was concluded that those factors described

that correlate with increased levels of substance use could be used to identify the substance use levels of adolescents with a fairly high degree of accuracy. The results of this study would be useful in helping identify adolescents possibly using substances, but does not help determine if these factors were present prior to initiating such substance use. Correlation is established but not causation.

Yanish and Battle (1985) used the Culture Free Self-Esteem Inventory and an alcohol consumption scale with 22 (F=14, M=8) adolescents aged twelve to eighteen and found that alcohol consumption was correlated with levels of self-esteem. In particular they demonstrated that alcohol usage was highly correlated with parental and academic self-esteem factors. These findings strongly suggest that adolescents who have positive relationships with their parents use alcohol to a lesser degree and perceive themselves more positively in regard to their academic abilities.

In her study of 48 delinquent females, Gibbs (1982) used a diagnostic interview, the Rorschach, and either the WISC-R or WAIS-R to investigate the relationship between substance use and personality types. She found that that there were a significant number of correlates of substance abuse among these delinquent females. Among these correlates were parental drug usage, poor academic achievement, rebellious behavior, self-mutilating

behavior, fighting, stealing, and other antisocial behaviors. Although she did not investigate self-esteem in her study, the correlates she described are frequently associated with lowered self-esteem.

Reese and Wilborn (1983) compared 26 thirteen to nineteen year old drug abusing adolescents with 26 non-drug abusing adolescents using the Coopersmith Self-Esteem Inventory and the Children's Report of Parental Behavior-Revised and found that the adolescents self-esteem and perceptions of parental behavior both served to differentiate drug abusing from non-drug abusing adolescents. The subjects in the two groups were matched for socioeconomic status and geographic region. There were 11 males and 15 females in the drug abusing group and 14 males and 12 females in the non-drug abusing group.

An interesting piece of research on self-image and social image factors in adolescent alcohol use was conducted by Chassin, Tetzloff and Hersey (1985). Their study investigated the social image that adolescents associated with alcohol use. The 266 subjects (M=235, F=231) in the study completed the Adolescent Alcohol Involvement Scale and a semantic differential scale rating the social image of pairs of adolescents depicted in slides holding either a soda can or a beer can. While rating the slide the subjects were asked how much they would like to be like the person in the slide and how much they would like to be friends with the person in the

slide. They hypothesized that adolescents would be more likely to drink if their self-concepts were consistent with a drinking image, if their ideal self-concepts were consistent with a drinking image, or if their friends admired a drinking image. Their research suggests that the social image of a drinker in the perceptions of adolescents is one of ambivalence. There are several positive traits that teens associate with being a drinker as well as several negative ones. Drinkers were perceived as tough, precocious, and rebelling against authority (perceived as positive traits), while at the same time were also perceived as less happy, less cheerful and less joyful. Adolescents who perceived themselves to be similar to this image of a drinker were found to be more heavily involved with alcohol. This conclusion is extremely important and further investigation would be warranted. It is possible that preventative strategies involving transformation of self image might be employed to reduce substance abuse.

None of the research supports the theory of a single factor as the main precipitant of substance abuse by adolescents. The next two studies which will be described suggest that the total number of risk factors involved rather than the presence of any single risk factor is the key in predicting whether a child will become heavily involved with substance abuse or not.

Bry, McKeon and Pandina (1982) reviewed the literature and came to the conclusion that there were six critical risk factors in the etiology of substance abuse. These six factors were low grade point average, lack of religiosity, early alcohol use, low self-esteem, psychopathology and poor relationships with parents. Their research in applying these six factors to a group of 973 high school students indicates that the greater the number of risk factors present, the greater the liklihood that the studenst was a substance abuser.

In addition to the six factors listed in the previously described study, Newcomb, Maddahian and Bentler (1986) included four others: a lack of social conformity, sensation seeking, perceived peer drug use and perceived adult drug use. The 994 adolescents in this study were given an assessment scale to measure each of the risk factors over time. Looking at these risk factors individually they found the following correlations with substance abuse : poor self-esteem, .07; psychopathology, .09; poor academic achievement, .11; low religiosity, .13; poor relationships with parents, .16; sensation seeking, .16; early alcohol use, .22; adult drug use, .30; deviance, .31; and peer drug use, .41. As noted previously, the total number of risk factors was the critical issue. Those with three or fewer risk factors were much less likely than the total sample to be illicit drug users while those with five or more factors were more

likely to be weekly users of illicit drugs and those with seven or more risk factors were nine time as likely to be heavy users of illicit drugs than the general sample. The results they present are inconclusive however as to whether these risk factors preceded or followed the drug use.

Although self-esteem in the Newcomb et al (1986) study was but one of a list of ten possible risk factors it is very interesting to note that many of the other risk factors are factors that are frequently cited as antecedents or correlates of self-esteem. And if one is thinking systemically it would be safe to say that all of the factors have an influencing effect on each other.

A few studies suggested that in addition to there being a significant correlation between adolescent alcohol use and self-esteem, lowered self-esteem was a pre-existing and causal factor in the development of substance abuse. These studies will be pursued in the next section.

As we recall from the previous review (1950-1980) Kaplan (1977) reported from his three year longitudinal study that lowered self-esteem precipitated adolescent drug and alcohol use, which then produced a temporary improvement in self-esteem, but then a decrease in self-esteem was experienced. Several other researchers corroborated Kaplan's findings.

Wright (1985) used a self administered questionnaire which included demographic data, a Self Rating Likert Scale, and self report of alcohol or other drug usage in a study of 433 high school seniors. His findings indicate that polydrug users and abusers were significantly more likely to indicate that they had been abused by their parents and have many conflicts with their parents. In addition they were much more likely to rate themselves as lazy, bored, rejected and unhealthy with serious suicidal thoughts. From these findings Wright concluded that adolescent polydrug abusers were seeking to avoid the pain in their lives. The problem with this conclusion is that this is a retrospective study and there was no evidence to suggest the the painful circumstances of these adolescents' lives were factors that precipitated the substance abuse.

Cappuzzi and Lecoq (1983) in their meta-analysis of the research on the social and personal determinants of adolescent use and abuse of alcohol and marijuana report a host of factors. These factors are religious affiliation, parental influence, peer influence, school influence, increasing pleasure and decreasing pain, low self-esteem, low value on and low expectation of achievement, rebelliousness, high adventuresomeness and risk taking, low impulse control, low delay of gratification, high independence, low interpersonal trust, and specific male and female correlates. It is interesting that they call

all these factors determinants when the studies they cite are almost all retrospective and indicate correlation not causation for these factors.

Bauman (1986) administered a questionnaire to 1,423 sixth grade students and readministered the questionnaire to the same students 1 year later. This instrument assessed the likelihood and desirability associated with numerous consequences of drinking beer or distilled liquor. Among the consequences assessed were changes in affect, self-image and peer relations. Students who initiated drinking of beer and distilled liquor reported doing so to enhance their feelings of self-esteem and their affect. It might be concluded that the students who began drinking did so to mitigate feelings of lowered self-image.

Stein et al (1987) in a longitudinal study examined the reciprocal influence of personality and drug use from late adolescence to young adulthood. Questionnaires were developed and administered to 193 male and 461 female subjects over an eight year period which assessed alcohol, marijuana and drug use as well as conscientiousness, extroversion, self-esteem, and social conformity. The findings indicate that there was more evidence to suggest that personality factors affected later substance abuse than the reverse.

In her analysis of numerous studies of the etiology of substance abuse in women, Bry (1983) reports evidence

for a host of psychosocial factors that are precursors of substance abuse. These factors are: family abuse, early use, low self-esteem, poor parental relationships, the availability of reinforcers, and genetic factors. The same critique that was made about Capuzzi and Lecoq's (1983) meta-analysis is made of Bry. That is, the evidence that is cited is retrospective and therefore cannot be called premorbidly existing factors.

Norem-Hebeisen (1984) conducted a two year longitudinal study investigating differences in 123 teenagers who were classified either as stable nonusers of drugs, or had decreased to nonuse, or had decreased to alcohol and marijuana use only, or had increased to drug use, or were unstable users. A survey was administered three times to this group over a two year period between grades nine and eleven. The strongest factors relating to drug usage were the number of friends using drugs and the quality of the teenagers' relationships with their parents. Drug use was also significantly related to social interdependence and low self-esteem.

Zucker and Gomberg (1986) in a meta-analysis of six prospective studies on the etiology of alcoholism do not mention self-esteem as a predisposing factor in the development of later alcohol abuse. They do however present as evidence that is supportive of etiology of later alcoholism, factors that have been demonstrated to be antecedents of low levels of self-esteem. These

factors are: childhood difficulty in achievement related activity including poor school performance; heightened marital conflict; divorce in the home; inconsistency in parenting; absence of parental demands; lack of parental interest; and lack of parental affection for the child. The key points of these six longitudinal prospective studies are summarized in Table 2.1 from Zucker and Gomberg (1986) on the next two pages.

Table 2.1 Prospective Studies of Influences During Childhood and Adolescence Related to Alcoholism in Adulthood: Descriptive Characteristics

Study	Childhood Characteristics and Source of Subjects	Age at First Contact	Time to Follow-up	Criterion for Adult Diagnosis	Characteristics of control sample
1. McCord & McCord (1960,1962)	Predelinquent males, identified for a youth project preventive program, blue collar	9	20+ years	Public records (hospital, welfare, court)	Predelinquents from same study with no public record of alcohol problems
2. Robins, Bates, & O'Neal (1962) Robins (1966)	Males and females, childhood psychiatric clinic patients, primarily blue collar, heavily court and social agency referred	Mdn=13	30 yrs.	Personal interview data and public records	a) other clinic patients not diagnosed as alcoholic; b) elementary school pupils without behavior problems - matched for age, residence & sex
3. Berry (1967); Ricks & Berry (1970)	Males, child guidance clinic patients, mixed social class	11-16	Adulthood	Hospital diagnostic record	Clinic patients with later socially adequate outcomes

Continued, next page

Table 2.3 continued

4. Jones (1968,1971)	Males and females; Oakland Growth Study, primarily middle class	10	3 contacts: 23, 28, & 33 years after T1	Extensive interview data and medical exam	Growth Study subjects who were not diagnosed as problem drinkers
5. Vaillant & Milofsky (1982); Vaillant et al. (1982); Vaillant (1983)	Adolescent males living in Boston area, lower socioeconomic status, originally chosen as normal controls for a delinquency study; over half were first generation U.S. citizens	12-16	3 contacts: 11, 17, & 33 years after T1	Extensive semistructured interview at age 47, plus medical & police records	Same cohort; subjects who had been rated as social drinkers throughout the course of adulthood
6. Monnelly, Harti & Elderkin (1983); Sheldon (1949)	Males in Boston area enrolled in a residential treatment program for behavior problems	15-21	5 contacts: 5, 17, 23, 32, & 37 years after T1	Interview, social agency, jail and hospital records, death certificates: interviews with relatives	Program participants whose adult lives were free of medical and psychiatric difficulty

One piece of research that is extremely interesting is the work carried on by George Vaillant (1983). Vaillant is fortunate to be continuing the work of two studies that began in the late 1930s and early 1940s: a study of juvenile delinquency by Glueck and Glueck at Harvard Law School and the Grant Study by Heath and Bock at the Harvard University Health Services. These two studies were brought together in 1972 and titled The Study of Adult Development. There are many who believe the study would more appropriately be called The Study of Adult **Male** Development since its more than 600 subjects are all male. This study is important because it is prospective in nature and covers a span of over 40 years.

There are several studies that Vaillant (1983) cites such as Tahka (1966) and Blum (1966) who agree that alcoholics are premorbidly lacking in self-esteem along with a host of other psychological pathogens. The criticism that Vaillant raises to this research is that it was conducted retrospectively, relying upon the memories of the alcoholics as to their premorbid traits.

In the work described here, Vaillant (1983) refers to three different samples, The Core City Sample (N=456), the College Sample (N=204), and the Clinic Sample (N=100). Most of his references and conclusions are in relation to the Core City Sample. This study has followed the 660 men from 1940 to the present, interviewing them at numerous periods throughout their lives and administering

questionnaires to them, as well as assessing them with various clinical instruments. Information was collected concerning many aspects about their lives including their use of alcohol.

The Core City subjects were originally selected by the Gluecks (1950) as the controls in their study of juvenile delinquency. They were selected on the basis of having no history of serious delinquency. Data was gathered at the beginning of the study when the boys were aged 11 to 16 and three later follow up points in time; ages 25, 31 and 47.

The College subjects were recruited between the years 1938 and 1941 when they were sophomores. They were interviewed by a psychiatrist on eight separate occasions at the beginning of the study and then followed with annual questionnaires until 1955 and bi-annual questionnaires from 1956 to 1970. They were interviewed again in the mid 1970s. The Clinic sample consisted of a group of clients who had presented themselves for treatment for alcoholism and were followed for eight years after their treatment.

The scales used to assess the subjects in the study are as follows: The Childhood Environmental Strengths Scale, The Childhood Environmental Weaknesses Scale, The Boyhood Competence Scale, The Hollingshead-Redlich Social Class Scale, The Social Competence Scale, The Hyperactivity Scale, The Robins Sociopathy Scale, The

Interview Schedule for Alcohol Use, The Calahan Scale, and The DSM III Scale of Alcohol Abuse and Dependence.

Vaillant (1983) hoped to answer the following seven questions in his study.

1) Is alcoholism a symptom or a disease?
2) Does alcoholism usually get progressively worse?
3) Are alcoholics, **before** they begin to abuse alcohol, different from non-alcoholics?
4) Is abstinence a necessary goal of treatment, or can insisting on abstinence sometimes be counterproductive?
5) Is returning to safe social drinking possible for some alcoholics?
6) Does treatment alter the natural history of alcoholism?
7) How helpful is Alcoholics Anonymous in the treatment of alcoholism?

Although all these questions are vitally important, for the purposes of this paper question three will be the focus. Vaillant (1983) and Vaillant and Milofsky (1982) studying the same data arrive at several conclusions. The first conclusion is that when there is an association between alcoholism and a behavioral trait or symptom, the alcoholism is the cause of that symptom rather than the reverse.

> ...in our sample, the differences frequently observed between alcoholic and nonalcoholic subjects to which retrospective studies often attribute etiologic significance --- differences in social class, unemployment, eventual educational achievement, and mental illness --- in fact appear **after** the development of alcoholism.

The second conclusion is that the genetic contribution of alcoholism far outweighs any sociological or psychological contribution from growing up in an alcoholic home.

Vaillant (1983) describes culture as another of the critical variables in the etiology of alcoholism. Table 2.2, taken from Vaillant (1983) lists the childhood differences and similarities between men from the Core City sample who never abused alcohol and those who became dependent upon alcohol.

Table 2.2 Childhood Differences and Similarities between Men Who Never Abused Alcohol and Those Who Became Dependent.

	Asymptomatic drinkers (n=254)	Alcohol dependent (n=69)
Differences		
Irish ethnicity	17%	30%
Italian ethnicity	35	6
Alcoholism in 2+ ancestors	9	21
Alcoholism in a parent	18	34
School behavior problems and truancy	2	13
Sociopath	.4	40
2+ times in jail	4	16
< 10 grades of education	28	42
Childhood environmental strengths ("warm")	26	13
Lack of cohesive family	40	51
Close relationship with father	30	13
Similarities		
I.Q. < 90	28	30
Parents in social class V	32	30
Multiproblem family	11	14
Warm relationship with mother	30	27
Inadequate maternal supervision	36	34
Childhood emotional problems	32	30
Boyhood competence	28	21

From this table it is apparent that there are distinct premorbid differences between the asymptomatic drinkers and the alcohol dependent drinkers. Several of these will be discussed in the following paragraphs.

Despite similar levels of intellectual ability and boyhood competence , those who became alcohol dependent had much more difficulty related to school. Despite apparently good relationships with their mothers, those who had later problems with alcohol did not have "warm" childhood environments, perhaps related to the lack of close relationship with fathers, or lack of cohesive family.

Those who became dependent on alcohol scored high on the Robins Scale of Sociopathy. This would indicate a pre-alcoholic antisocial personality disorder. In spite of his own evidence, Vaillant (1983) states that where there is evidence of antisocial personality disorder and alcoholism, it is the alcoholism that came first.

Vaillant (1983) and Vaillant and Milofsky (1982) attribute the childhood differences in environment to parental alcoholism. They state that it is the genetic factor that is overriding.

Zucker and Gomberg (1986) reanalyzed the data of Vaillant (1983) and Vaillant and Gomberg (1982) as part of their previously referred to meta-analysis summarized in Table 1 and developed an alternative etiological perspective using all six prospective studies.

The following are the conclusions at which they arrive:

1) Childhood antisocial behavior is consistently related to later alcoholic outcome.
2) More childhood difficulty in achievement-related activity is consistently found in later-to-be alcoholics.
3) A greater activity level is identified as a possible etiological factor in two studies.
4) Males who later become alcoholics are more loosely tied to others interpersonally.
5) Heightened marital conflict is reported with consistently greater frequency in the prealcoholic homes.
6) Parent-child interaction in prealcoholic families is characterized by inadequate parenting and the child's lack of contact with the parents.
7) Parents of prealcoholics are also more often inadequate models for later normalcy. They are more likely to be alcoholic, antisocial, or sexually deviant.
8) Cultural differences are linked to alcohol consumption.

As stated previously, they do not specifically refer to self-esteem as a factor in the etiology of alcoholism, but they do refer to numerous factors that are consistently linked with the development of self-esteem.

2.4 Conclusion

Table 2.3 summarizes the major aspects of 34 studies that are significant in the investigation between self-esteem and alcohol use and cited in sections 2.2 and 2.3.

Table 2.3 Summary of Studies Investigating The Correlation between Self-Esteem and Alcohol/Drug Use

STUDY	SAMPLE	MEASURES	DESIGN	FINDINGS
1. Brown (1980)	N=58 Ne=38 Nc=20 adult males	16 Personality Factor Questionnaire (anxiety, depression, self-esteem)	Correlation	Alc. lower on all three
2. Charalampous, et at (1976)	N=100 Ne=19 Nc=81 M=81 F=19 adults	Rosenberg Scale of Self-Esteem	Correlation	Alc. lower self-esteem
3. Yakichuk (1978)	N=105 Ne=46 Nc=59 adult	TSCS Self-Multi Attitude Scale	Correlation	Alc. viewed bodies, appearances, sexuality, moral worth, adequacy, less favorably
4. Pushcash & Querski (1980)	N=100 Ne=50 Nc=50 M=50 F=50 adults	GMAT MARS MAST	Retrospective & Correlation	Alc. view self & families less favorably
5. Williams (1965)	N=68 males adult	Questionnaire of Prob. Drnk. Gough ACL	Correlation	Prob. drinking assoc. with low self-esteem, self criticism

Continued, next page

Table 2.3 continued

6. Diamond & Wilsnak (1978)	N=10 Females adult	Interviews	Correlation	Alc. have low self-esteem, drnk. increases self-esteem
7. Berg (1971)	N=80 Ne=40 Nc=40 Males Adult	Q-sort, Gough ACL, Drinking Questionnaire	Correlation	Alc. had lower self-esteem
8. Gross (1970)	Ne=145 Nc=625 Adult	TSCS	Correlation	Alc. had lower S.E. on 9 scales
9. Heilbrun & Schwartz (1980)	N=66 Ne=40 Nc=26 Me=25 Fe=15 Adult	Gough ACL	Correlation	Alc. had lower S.E., male alc. rationalized more
10. Wood & Duffy (1966)	N=69 Females Adults	Interviews	Correlation	Alc. had lower S.E.
11. Clarke (1974)	N=40 M=20 F=20 Alc. Adults	Q-sort	Correlation	both had low self-esteem, no sex diff.
12. Jellinek (1952)	N=2,000 Adults	Interviews	Retrospective & Correlation	Alc. had low self-esteem, Low S.E. precedes alc.
13. Vanderpool (1968)	N=100 Ne=50 Nc=50 Adults	ACL TSCS	Correlation, over 4 times	Alc. have low S.E., drinking lowers it more
14. Manganiello (1980)	N=95 Ne=55 Nc=16 White Male Adults	TSCS FET Rotter I/E	Correlation	Addicts have lower S.E., short future time perspective, external l.c.

Continued, next page

Table 2.3 continued

15. Gossop (1977)	N=71 Ne=55 Nc=16 Male & Female Adults	semantic diff. scale	Correlation	Addicts have lower S.E., Female<male
16. Segal et al (1975)	N=200 Nad=54 Nalc=82 Nc=64 Adults	TSCS	Correlation	Addicts & Alc. have lower S.E. than non-users, Add.<Alc.
17. Carrol et al (1978)	N=334 N(acl)=178 N(add)=156 Adults	TSCS	Correlation	Both Alc. & Addicts have Low S.E., no diff.
18. Huntwork & Ferguson (1977)	N=2390 F=1323 M=1067 Teens	DSCS, Sub. use questionnaire	Correlation	Sub. abusers had lower self concept
19. Blane et al (1968)	N=526 F=270 M=256 Teens	Use of alc. scale, Alienation Scale, Feeling of Inadequacy Scale	Correlation	Alc. abusers lower on S.E., alienated, Alienation corr. w/ S.E.
20. Kaplan (1977)	N=3148 Male & Female Teens	Questionnaire	Correlational & Prospective (3 yrs.)	Alc. use assoc. w/ lower S.E., Low S.E. precedes alc. use
21. Pandina & Schule (1983)	N=2184 Ne=224 Nc=1960 Teens	SCL-90, Piers Harris, Sub. Use Questionnaire	Correlation	Sub. users had higher levels of distress & parent control, lower levels of self-esteem & parent warmth

Continued, next page

Table 2.3 continued

22. Yanish & Battle (1985)	N=22 F=14 M=8 Teens	CFSEI, alc. consumption scale,	Correlation	High alc. consumption corr. w/ low S.E. in academ. & parent subscales
23. Gibbs (1982)	N=48 Female Deling. Teens	Diag. Interview, Wechsler, Rorschach	Correlational, Retrospective	Alc. use assoc. w/ Antisocial Borderline, Neurotic Pers.
24. Rees & Wilborn (1983)	N=52 Ne=26 Nc=26 Teens	SEI, Child. Report of Parent Behavior	Correlation & Retrospective	Drug abusers had low S.E., lower perceptions of parent warmth
25. Chassing et al (1985)	N=266 Teens	AAIS, semantic diff. scale	Correlation	If self-image consistent w/ that of drinker, more likely to drink heavily
26. Newcomb et al (1986)	N=994 Teens	diff. scales for each of 10 risk factors	Correlation & longitudinal, 4 yrs.	S.E. one of risk factors, greater # of risk factors greater likelihood of drug abuse
27. Wright (1985)	N=433 high school seniors	Questionnaire	Correlation	Alc. report more child abuse, conflict w/ parents, feelinngs of being lazy, bored, & rejected
28. Capuzzi & Lecoq (1985)	----	Meta-analysis	Correlation	Multiple factors including low S.E.
29. Norem-Hebeisen (1984)	N=123 Teens	Survey Questionnaire	Correlation, Prospective 3 yr.	Drug use related to # of friend who use, rel. w/ parents, & self-esteem

Continued, next page

Table 2.3 continued

30. Bauman (1986)	N=1423 6th graders	Questionnaire	Prospective (1 yr)	Psych. factors precede alc. use
31. Stein et al (1987)	N=654 F=461 M=193 Teens	Questionnaire	Prospective (8 yr.) Correlation	low conscientiousness, low S.E., low extroversion, low conformity predict high level of sub. abuse
32. Bry (1983)	---	Meta-analysis	Correlation	Host of factors including low self-esteem
33. Zucker & Gomberg (1986)	---	Meta-analysis	Viewed 6 prospective studies	Numerous childhood & family precursors to alcoholism
34. Vaillant (1983)	N=660	Interviews & 8 diff. scales	Prospective, 45 years	No significant premorbid psychological variables

From the findings presented in the reviews of the literature and summarized in the above table one could arrive at several conclusions. The first conclusion is that there is little doubt but that low self-esteem correlates significantly with abuse of and addiction to alcohol as well as other drugs. What is unclear ar this point is whether low self-esteem precedes alcohol abuse or vice versa.

An alternative to an either/or conclusion is that there is an interactive relationship relationship between the two variables. By that it is meant that in some cases low self-esteem precedes alcohol abuse and in other cases, the alcohol abuse precipitates the low self-esteem. If that is the case then the researchers who come to these two different conclusions are very likely describing two different types of alcoholism: one that is very culturally and genetically based as described by Vaillant (1983) and another that is psychologically and environmentally based as described by Zucker and Gomberg (1986) and Kaplan (1977) among others. If this be the case then more research is necessary in order to be able to differentiate between these two groups premorbidly.

CHAPTER 3

DESIGN OF THE STUDY

3.1 Hypotheses

The first hypothesis stated in null terms is that there will be no significant correlation between the level of self-esteem and the degree of alcohol involvement at any one time among the adolescents involved in this study.

The second hypothesis stated also in null form is that adolescents with initial low self-esteem will over time be no more likely to report heavy involvement with alcohol than adolescents with initial levels of high self-esteem.

3.2 Sample

The subjects in this study will consist of a cluster sample of adolescents in a public school setting of a small city in the Northeast United States. Permission was obtained from the assistant superintendent of schools in the city and the principal of a junior high school to select four classes from the 1980-1981, 7th grade at that school. Students attending the school are from multi-

cultural and varied socioeconomic backgrounds that somewhat reflect the population of the system as a whole. Students in junior high schools in the city selected for this study were at that time grouped by ability as measured by elementary school records and the Metropolitan Achievement Test. There were 14 tracks of students at the school in 1980. These tracks were labeled 7-1 to 7-14. In order to obtain a cross section representative of the 7th grade population selected classes were 7-1, 7-6, 7-8, and 7-14.

On the day the instruments were initially administered to these four classes there were 82 students present. Of these there 30 boys and 52 girls . This comparitively smaller number of boys might be a factor limiting the generalizibility of this study. On the variable of race, 62 students classified themselves as white, 15 as black, one as Hispanic and two as other races. Fifty-seven of the students reported living with both parents or a parent and a step-parent, 20 reported living with one parent and three reported living in foster homes or other living situations. Two students failed to complete the form asking for demographic data. Although the school as a whole reflects the demographics of the city, the sample was somewhat skewed in being over-representative of white students and of girls.

The instruments were administered to the students in 7th, 8th, 9th and 12th grades. When the instruments

were administered in the 8th and 9th grades there were 60 (22 male and 38 female) and 40 (14 male and 26 female) students from the original group who participated. By 12th grade there were only 45 students remaining in the study. The other 37 (13 males and 24 females) had apparently left the school system. Although this is a fairly high attrition rate and therefore will possibility affect the generalizibility of the results it is still a valuable study due to the longitudinal nature of the research.

3.3 Instruments

The assessment instruments used in this study were the Coopersmith Self-Esteem Inventory (SEI) (Coopersmith ,1959, 1967, 1981) and the Adolescent Alcohol Involvement Scale (Mayer & Filstead, 1979). These instruments are attached in Appendices A and B.

3.3.1 Coopersmith Self-Esteem Inventory

3.3.1.1 General Information

The Coopersmith Self-Esteem Inventory (SEI) was developed by Stanley Coopersmith and first described in The Journal of Abnormal and Social Psychology in 1959 and later in greater detail in his classic The Antecedents of Self-Esteem (1967).

From materials written by the late Stanley Coopersmith a newer test manual (1981) has been developed.

The manual, with supporting data from Coopersmith's article and his book provide information to evaluate the instrument.

The stated purpose of the instrument is to measure self-esteem from the perspective of the subject. Coopersmith's (1967, 1981) definition is that "a person's self-esteem is a judgement of worthiness that is expressed in the attitudes that person holds toward the self". An expanded definition according to Coopersmith (1967) is that self-esteem refers "to the evaluation which the individual makes and customarily maintains with regard to himself: it expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes himself to be capable, significant, and worthy".

The general format is straightforward and the items are easily read and answered by checking the appropriate response. An example of an item from the SEI is the statement "I'm pretty happy", to which the subject would either check one of two boxes labeled "Like Me" or "Unlike Me". The items appear to be relevant to ascertaining how individuals view themselves and hence have face validity.

The inventory items were selected from an older self-esteem inventory, the Rogers and Dymond scale and rewritten for children. In addition, Coopersmith designed several new items. The reworded items and the new items were examined by five psychologists and sorted into two

groups: those items indicative of high self-esteem and those indicative of low self-esteem. Those which were ambiguous or about which there was disagreement were eliminated. The result was an inventory of 50 items of agreed upon good quality, which could be administered to someone with a 5th grade reading ability.

3.3.1.2 Reliability

Test-retest reliability as determined by Coopersmith (1959, 1967) over a five week span of time was .88 with a sample of 50 children in the fifth grade. With another sample of 56 fifth graders , after a period of three years the reliability coefficient was .70. Two studies, by Fullerton (1972) and Taylor and Reitz (1968), cited by Coopersmith (1981), reported split-half reliability coefficients of .87 and .90. Spatz and Johnston (1973) in a study with over 600 students in grades 5, 9 and 12, report Kuder-Richardson reliability coefficients of .81, .86, and .80 respectively.

These coefficients of reliability as well as the review of the SEI by Peterson and Austin (1985) and Sewell (1985) in the Ninth Mental Measurements Yearbook lead this researcher to conclude that the SEI is a sufficiently reliable instrument and used frequently in the literature.

3.3.1.3 Validity

The constructs measured by the SEI are the subject's attitudes toward the self within four contexts. These

four contexts are peers, parents, school, and personal interests. In addition a score describing the total self-esteem is obtained. The underlying concepts Coopersmith (1967) is tapping with this measure are an individual's assessment of personal competence, significance, virtue and power in relation to the four above cited areas. These constructs are experienced by a youngster in relation to the acceptance, warmth and limit setting the child experiences in interaction with significant others. For adolescents, those significant others are peers, parents, teachers and school mates.

The previous discussions describing the method of item selection and the constructs tapped by the test are evidence of both the content and construct validity of the SEI. That is, the test items cover a sufficient sample of the subjects' behaviors to provide an accurate indication of the subjects level of self-esteem. The test development process previously described also illustrates that the test items focus on the trait that is to be measured. Coopersmith (1959, 1967) demonstrated that the SEI had criterion-related validity by comparing scores of subjective self-esteem as measured by the SEI with scores obtained on the Behavior Rating Form (BRF) (Coopersmith, 1959, 1967). The BRF is a scale developed by Coopersmith and used by an observer to rate students on behavioral measures of self-esteem. The BFR rated students on such behaviors as easily adapting to new

situations, hesitancy to express opinions or reactions to criticism.

Although Coopersmith (1969) reported no correlations between the SEI and the BRF he did state that there was significant differences in less than 10% of the cases between the scores on the SEI and the BRF. In the cases where there was a significant difference, two assumptions were made to explain the discrepancy. Subjects scoring high on the SEI and low on the BRF were thought to be extremely defensive individuals who held a high self regard in spite of low ratings by teachers and little acceptance by peers. Subjects scoring low on the SEI despite high scores on the BRF were assumed to be perfectionist type persons with high anxiety who set impossible goals for themselves. Hence they had low subjective self-esteem despite the fact that observers rated them as successful.

Although Coopersmith himself did not report any validity coefficients several other researchers did. Fullerton (1972) reported a validity coefficient of r=.44 at the .005 level between SEI and BFR scores on 104 5th and 6th grade boys and girls. Taylor and Reitz (1968) found support for the SEI to be valid as evidenced by their report of a validity coefficient of .42 between the SEI and the Self Acceptance scale of the California Personality Inventory. Crandall (Shaver and Robinson, 1973) found correlations of .59 and .60 between the SEI

1973) found correlations of .59 and .60 between the SEI and the Rosenberg scale for college students.

The reviews of the SEI in the Ninth Mental Measurements Yearbook, by Peterson and Austin (1985) and Sewell (1985), state that in spite of some limitations they consider the Coopersmith Self-Esteem Inventory to have sufficient validity for research purposes.

This researcher concludes that there is sufficient evidence to consider the SEI a valid instrument for use in this research study.

3.3.1.4 Norms

Coopersmith used his original group of children (N=1,748) as his norm group. Within this group the mean for males was 70.1, S.D. = 13.8 and for females the mean was 72.2, S.D. = 12.8. There was no statistically significant difference between these two means. There are really no exact criteria for cut off points to indicate high, medium, or low self-esteem. Studies on the results of the SEI generally report means in the range of from 70 to 80 with standard deviations varying between 11 and 13.

Several sets of norms are provided in the test manual, however the manual suggests that it might be more useful to construct local norms. After reviewing the various sets of norms provided in the manual and comparing these with the results of the data in this study this researcher decided against using any of them. Local norms

and cut off ranges for high, medium and low self-esteem were established. These are illustrated in Table 3.1 and Table 3.2 and are used in Chapters 4 and 5 in presenting and discussing the results of the study.

Table 3.1 SEI Means and Standard Deviations by Grade

Grade	N	mean	S.D.
Grade 7	82	62.3	18.5
Grade 8	60	68.4	19.0
Grade 9	45	67.7	18.1
Grade 12	40	77.3	11.5
Combined Total	227	67.3	18.5

Table 3.2 Norms for Classifying Levels of Self-Esteem

Type of Self-Esteem	Range of Scores
High	86 to 100
Medium	49 to 85
Low	0 to 48

The scores on the SEI are reported in raw scores with a possible range of 0 to 100, although it is extremely unlikely there would be scores near to or equal to 0.

Included in the inventory are eight Lie Scale items that may be used as a measure of defensiveness. An example of a Lie Scale item is the statement "I never worry about anything." A high score on this scale might indicate defensiveness or an attempt to "fake" good. One

of the criticisms of the SEI noted in the reviews by Peterson and Austin (1985) and also by Sewell (1985) is that although Coopersmith built in a "lie" scale to measure defensiveness, he did not discuss how this scale should be interpreted.

No special qualifications are required to administer this inventory. The instructions are straightforward and simple. Although only one of the studies in the review of the literature in Chapter Two reported using the Coopersmith SEI to assess self-esteem it was selected for this study since it has a fifth grade reading level, and has sufficient reliability and validity to be used in research with children and adolescents.

3.3.2 Adolescent Alcohol Involvement Scale

3.3.2.1 General Information

The **Adolescent Alcohol Involvement Scale** (1979) was developed by John Mayer and William Filstead and described in The Journal of Studies on Alcohol in March of 1979. The test has not been formally published as yet, hence there is no manual. However, the journal article provides technical information for reviewing, administering, scoring and interpreting the scale.

According to the authors, the purpose of the Adolescent Alcohol Involvement Scale (AAIS) is to identify adolescents who have drinking problems. Although the authors do not propose such use, the instrument might also

be used to rule out alcohol misuse as a problem when assessing an adolescent.

The format is a 14 item questionnaire with multiple choice answers. The questions are very readable and easily comprehended, demanding an upper elementary school reading ability. The items are straightforward and are engaging to the test taker.

The items were developed by Mayer and Filstead in the following manner. They reviewed the literature on the subject of adolescent alcohol use and measuring instruments and identified 26 areas of psychosocial consequences of teen alcohol use. These areas were then refined and combined where they seemed to overlap and 16 questions were developed. Following preliminary tests for predictive value, two of the questions were eliminated. The final 14 item questionnaire contained the variables identified by the investigators as sensitive in identifying adolescent alcohol misuse. The AAIS measures the negative affects of alcohol in the areas of psychological functioning of the adolescent, social relations, and family interactions. It is perhaps a liability of this test that the authors did not elaborate on these areas. They did not report what specifically they meant by each of the areas of psychological functioning, social relationns and family interactions. The AAIS does not assess for degenerative physical outcome of alcohol misuse since for most adolescents the

physiological consequencs of alcohol abuse are not obvious.

3.3.2.2 Reliability

The test-retest reliability was measured with two groups of subjects. The first was an experimental group of 52 adolescents in treatment for abuse of alcohol. The second was a control group of 126 adolescents who had no history of alcohol abuse. The correlation within each group after 2 weeks was .91 for the experimental group and .89 for the control group.

3.3.2.3 Validity

The construct validity was determined by having a group of experts, the staff of an alcoholism treatment unit in a private psychiatric hospital, rate each question on a scale of 1 through 5, with 1 indicating a poor question and 5 indicating a good question. The average rating of the counselors on the staff was 4.2, while the average rating of 10 psychiatrists on the staff was 4.6. Both groups of experts recommended no change in the questionnaire.

The group of psychiatrists was asked to determine the total score that would be indicative of a problem with alcohol. The group recommended a cut-off score of 42 based on the scores of two groups of hospitalized adolescents reporting problems with alcohol.

Criterion related validity was determined in two ways. The AAIS was administered to 23 adolescents in a psychiatric hospital who were reported to have problems with alcohol. The patients scored an average of 43.2.

The next step in assessing the validity of the AAIS was to examine the scores of the two groups described in discussing the reliability of the instrument (the experimental group of 52 adolescents in treatment for alcohol abuse, and the control group of 126 adolescents with no history of alcohol abuse). The mean scores of the two groups were 58 and 19 respectively, which differed significantly.

This above described evidence suggests that the AAIS does discriminate between adolescents who are using alcohol without experiencing any apparent ill effects and those who are harmfully involved with alcohol and therefore has sufficient validity for use in the study described in this report.

3.3.2.4 Norms

Norms were developed from a group of 3662 adolescents in the general population of four high schools in the Chicago area. The scores of this group differentiated between 4 types of drinkers of alcohol. 11.36% scored 0 and 9.32% scored between 1 and 19. This range, from 0 to 19 would indicate those adolescents who never or rarely drank alcohol. Scores within the second range, 20 to 41,

indicate teens who drink alcohol fairly regularly, but are experiencing no apparent difficulties as a result of such drinking. 60.25% of the subjects obtained scores in this range. Scores between 42 and 57 appeared to indicate alcohol misuse and were obtained by 15.07% of the students. Scores within the final range, 58 to 79, obtained by 4% of the subjects, seem to identify alcoholic type drinkers. These are raw scores and no aids are necessary for their interpretation. These classifications are summarized in Table 3.3.

Table 3.3 Type of Drinker As Classified by AAIS Score

TYPE OF DRINKER	AAIS SCORE
1. Never or Rarely Drink	0 to 19
2. Fairly Regular Drinkers with No Apparent Problems	20 to 41
3. Alcohol Misusers	42 to 57
4. Alcoholic Like Drinkers	58 to 79

The instrument can be administered individually or in a group by any adult with no special training. The only materials necessary are the instrument itself and pens or pencils. It takes about 5 minutes for an individual to take the test and a little less than that to score it. The test can be hand scored, or possibly computer scored if the instrument were administered to a large number of subjects.

After pilot testing this instrument with about 150 adolescents this researcher found that the responses to question 5, "How do you get your drinks" needed amplification. A large number of teens said they got their drinks from persons not listed in the original questionnaire. They said they obtained their drinks from older persons they did not know, by asking older persons outside liquor stores to buy liquor for them. The original response "d." was "from friends". This researcher added "or others" to the response to cover this deficit in the scale.

The AAIS aappears to be a reliable, valid instrument that can be easily administered to adolescents in a group setting and for all these reasons was selected for this study.

3.4 Procedures in Collecting Data

The first step in collecting the data for this study was to request permission from the assistant superintendent of secondary schools and the principal of the school from which the sample was selected. After permission was granted, four classes of seventh grade students were selected using a cluster sample method. This sample was previously described in section 3.2.

The first year of gathering data this researcher visited the classrooms of the four tracks of students and explained to them the purpose of the study being

conducted. They were told "This study is being conducted to determine if there is a relationship between students' drinking behavior and how the students feel about themselves. You will be contacted several times between 7th and 12th grade and given the same tests. If you do not not wish to participate you do not have to. If you think you have a problem related to alcohol or drug use help is available. Please see me after class or let your teacher know you wish to see me." Names of the students who were present on that day were gathered in order to contact them in subsequent years, but student names were not on the assessment instruments. Students anonymity was protected in the manner described in an earlier section. The assessment instruments were then administered to the students and collected when they were completed.

The same procedure was used in gathering the data in grades eight, nine and twelve.

3.5 Limitations of The Study

This longitudinal study involves data gathered from an original group of 82 seventh grade students who were administered the SEI and AAIS four times over a period of six years. In the subsequent three assessment times during the six years of the study data were gathered from 59, 40 and 45 students respectively. This attrition rate may limit the generalizibility of the study especially if those who were not present were those students who had

become involved with alcohol to the point where they could be catagorized as alcohol misusers or alcoholic like drinkers.

There are several other factors which might also limit the generalizibility of this study. The original sample is over representative females. There are 30 males and 52 females in the original sample. In addition to this possibile limitation in the sample, the sample is not reflective by of race of the population of the school system in which the study was conducted. Students classified themselves by race in the following numbers: 62 - white; 15 - black; 1 - Hispanic; and 2 - other.

It is assumed that the students answered the questionnaires honestly since their privacy was protected by the use of the coding system and there is a lie scale included in the SEI. But even with these safeguards some students might have been less than candid about their alcohol use or falsely described their self-esteem.

In spite of these limitations this researcher believes that this study is an important one which will yield valuable results for both the prevention and treatment of substance abuse problems.

3.6 Implications

When this study is completed valuable implications for both the prevention of and treatment of substance will result. If the first hypothesis, that there is a

significant negative correlation between adolescent alcohol involvement and self-esteem is accepted this will add to the growing body of literature that indicates such a relationship. A unique contribution of this research will be the examination of the sub-scales of the SEI in relation to alcohol involvement. Perhaps there is a component of self-esteem that is more sensitive to alcohol involvement than others? Or perhaps the global self-esteem is the critical factor?

In addition to establishiing the strength of the correlation between these two variables it is possible that from this study we might arrive at an answer to the questions posed in the introduction. Does low self-esteem predispose one toward alcohol misuse? Does alcohol misuse lower self-esteem?

The answers to these questions will be valuable in supporting prevention efforts and treatment efforts that have as a target the raising of a person's self-esteem.

The results of this study will have serious implication for parents, teachers, counselors. therapists, substance abuse prevention and treatment service providers, and anyone who has contact with youth.

CHAPTER 4

RESULTS

4.1 Introduction

In this chapter the results of the analysis of data are presented. The first section describes the results of the students's responses to the Adolescent Alcohol Involvement Scale and to the Coopersmith Self-Esteem Inventory by year. Differences between scores each year are examined as well as gender differences. The second section addresses the analysis of data that pertain to the two hypotheses that were tested. Those hypotheses stated in null form are: 1) That there is no significant correlation between the subjects' AAIS scores and their SEI scores at any one time and 2) That there is no significant difference between the cross lag correlations between the subject's AAIS scores and their SEI scores in differing years.

4.2 Summary of Responses to The Adolescent Alcohol Involvement Scale

The Adolescent Alcohol Involvement Scale (AAIS) is a self-report inventory which purports to measure an adolescent's level of involvement with alcohol. Subjects are placed in 5 categories: Abstainers who obtain a score

of 0; Rare Drinkers with scores ranging from 1 to 19; Regular Drinkers with No Apparent Problems who score from 20 to 42; Alcohol Abusers whose scores fall in the 42 to 57 range; and Alcoholics Like Drinkers with scores falling in the range from 58 to 79.

In Table 4.1 the numbers and percents of subjects in each of five categories of alcohol involvement according to AAIS score by grade are shown.

Table 4.1 Numbers and Percents of Subjects in Each Category of AAIS by Sex and Grade

Category		Grade 7	Grade 8	Grade 9	Grade 12
Abstainer (0)	M	11 (36.7%)	4 (18.1%)	5 (35.7%)	0 (0%)
	F	22 (42.3%)	10 (26.3%)	1 (3.8%)	1 (3.6%)
	T	33 (40.2%)	14 (23.4%)	6 (15%)	1 (2.2%)
Rarely Drink (1-19)	M	7 (23.3%)	7 (31.8%)	2 (14.3%)	1 (5.9%)
	F	12 (23.1%)	7 (18.4%)	2 (7.8%)	2 (7.1%)
	T	19 (23.2%)	14 (23.4%)	4 (10%)	3 (6.6%)
Regular Drinker (20-41)	M	12 (40.0%)	11 (50.0%)	7 (50.0%)	13 (76.4%)
	F	13 (25.0%)	13 (34.2%)	12 (46.2%)	23 (82.1%)
	T	25 (30.5%)	24 (40.0%)	19 (47.5%)	36 (80.0%)
Alcohol Abusers (42-57)	M	0 (0%)	0 (0%)	0 (0%)	3 (17.6%)
	F	5 (9.6%)	7 (18.4%)	11 (42.3%)	2 (7.1%)
	T	5 (6.1%)	7 (11.7%)	11 (27.5%)	5 (11.4%)
Alcoholic Like Drinkers (58-79)	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	T	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Totals	M	30 (36.6%)	22 (36.7%)	14 (35%)	17 (37.8%)
	F	52 (63.4%)	38 (62.3%)	26 (65%)	28 (62.2%)
	T	82 (100%)	60 (100%)	40 (100%)	45 (100%)

M = Males, F = Females, T = Total

Figures 4.1 through 4.4 graphically illustrate this data allow one to visualize the trends that are occurring.

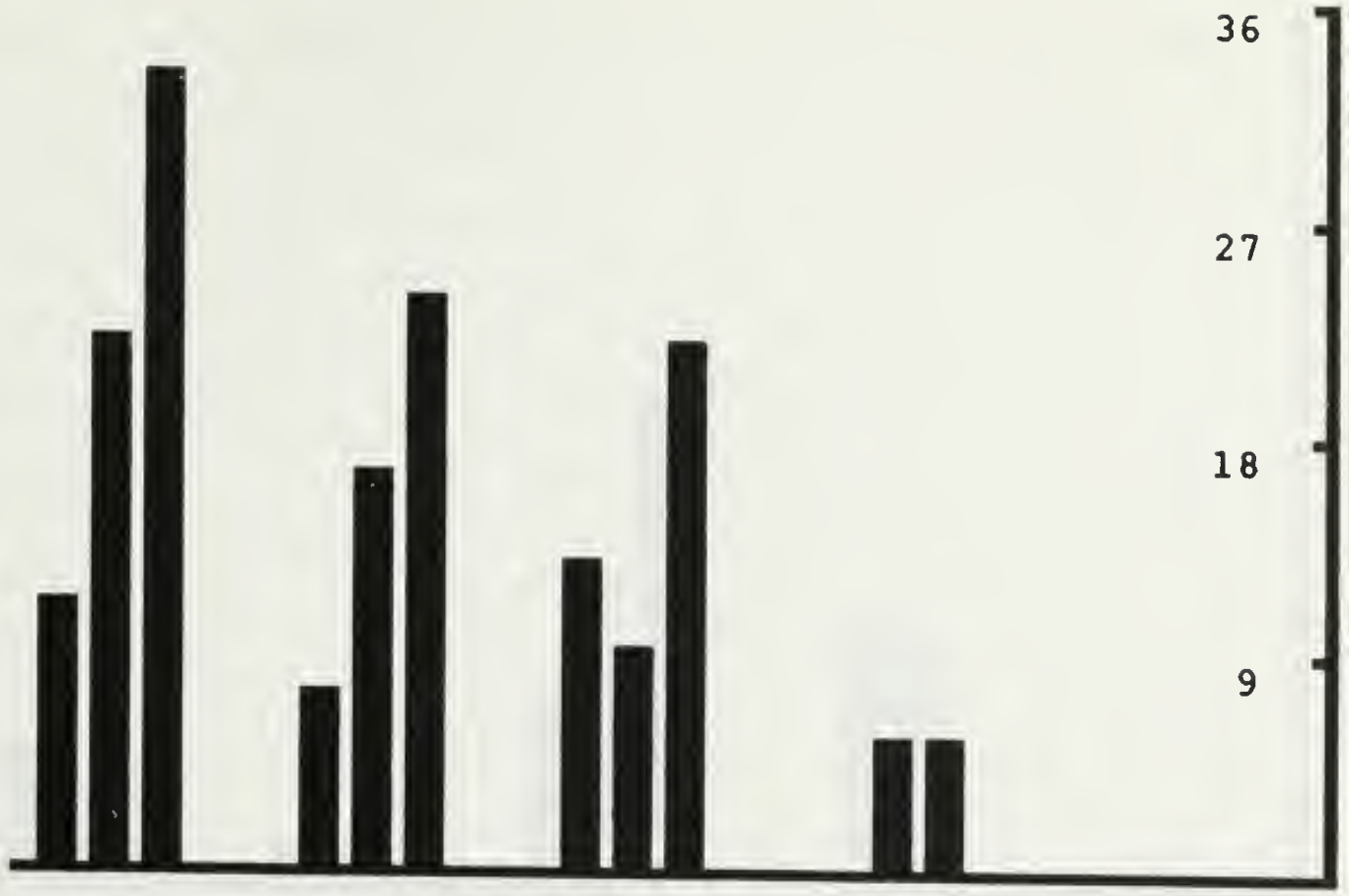


Figure 4.1 Number in Each Category of The Adolescent Alcohol Involvement Scale, Grade 7, N=82

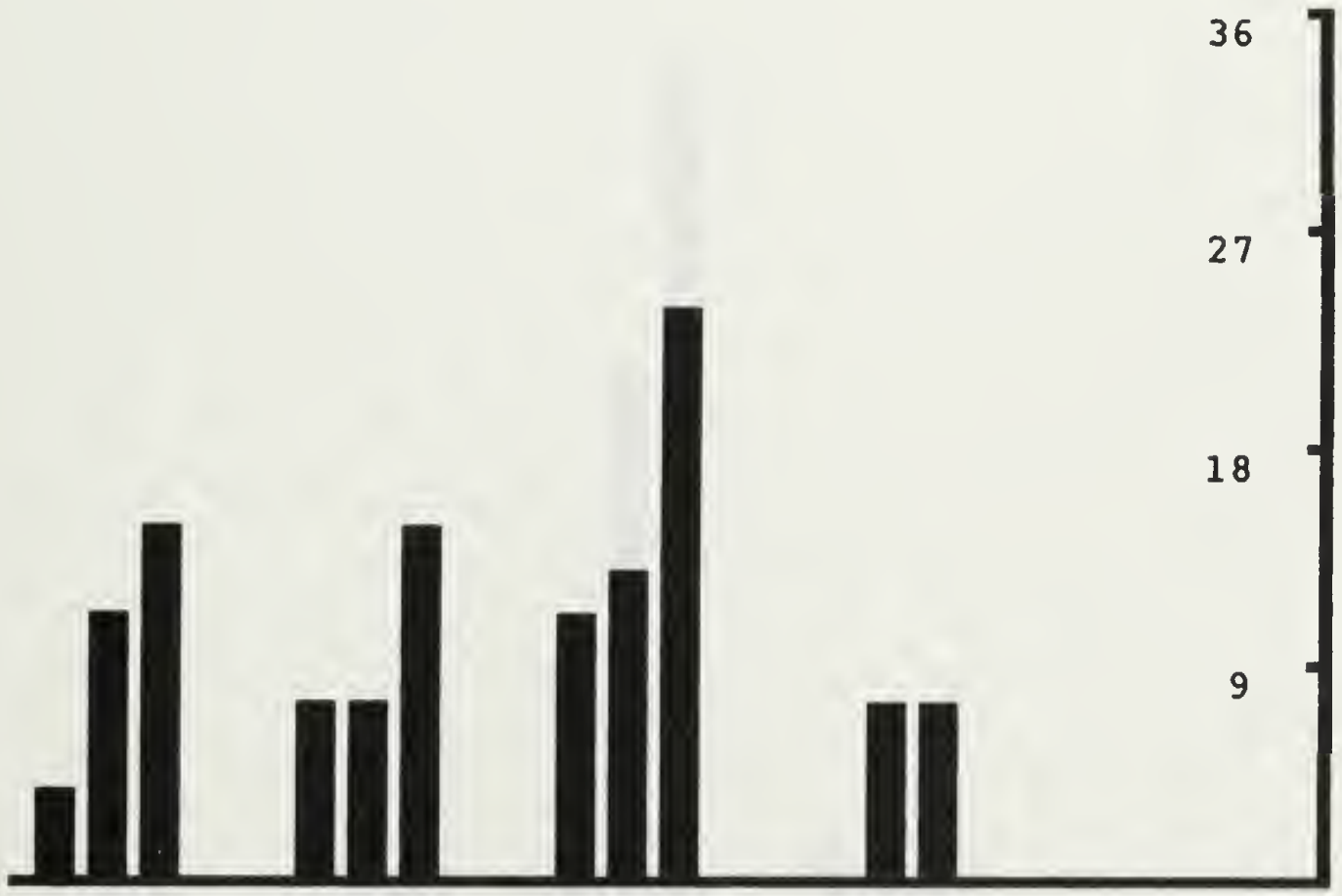


Figure 4.2 Number in Each Categoty of The Adolescent Alcohol Involvement Scale, Grade 8, N=60

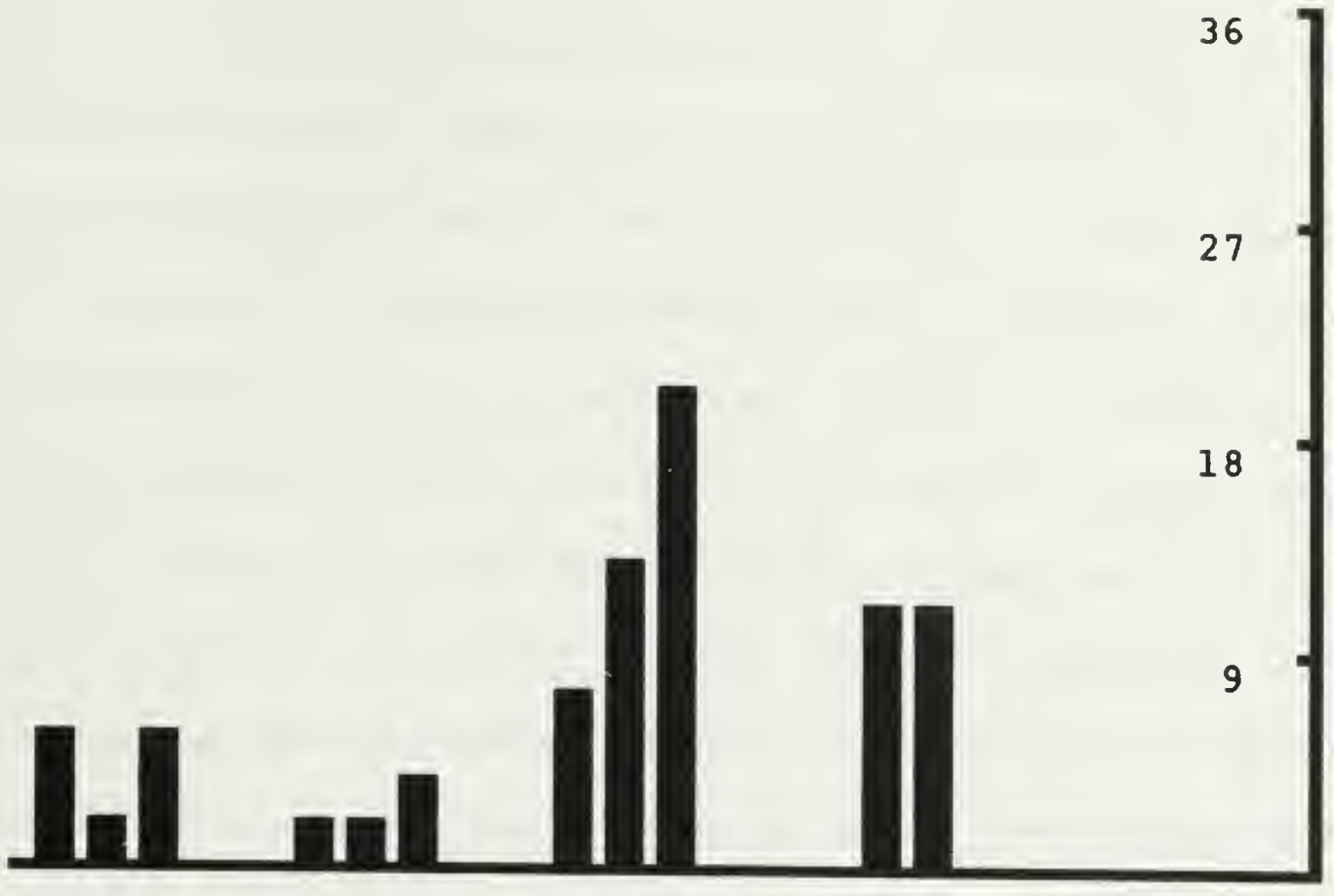


Figure 4.3 Number in Each Category of The Adolescent Alcohol Involvement Scale, Grade 9, N=40

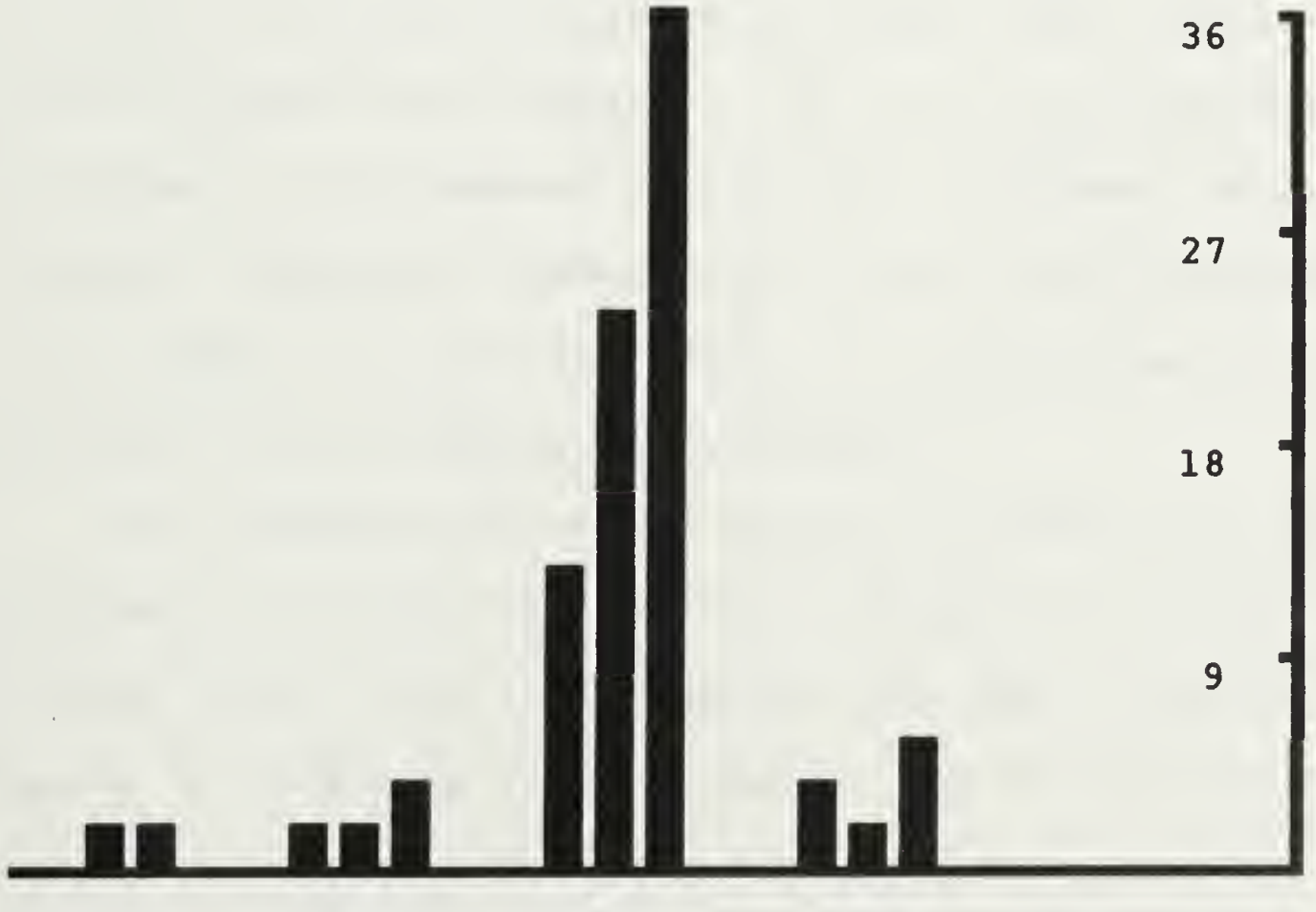


Figure 4.4 Number in Each Category of The Adolescent Alcohol Involvement Scale, Grade 12, N=45

From Table 4.1 and Figures 4.1 through 4.4 it is evident that the number of subjects who are abstainers and rare drinkers decreases each year while at the same time the number of regular drinkers with no apparent problems with alcohol increase each year. Those who abstain or rarely drink comprise 63.4% of the seventh grade sample while 8.8% of the twelfth graders in year four of the study abstain or rarely drink. At the same time, from seventh grade to twelvth grade, the percent of regular drinkers increases from 30.5% to 80%. The number and percent of alcohol abusers increases for the first three years of the study, but decreases from ninth to twelfth grade or from year three to year four of the study. It is quite interesting to note that in grades 7, 8 and 9 of the study all of the subjects who were classified as Alcohol Abusers were female. It is also of interest to note that in this sample of in-school students there were none who classified themselves as alcoholic like drinkers in any year of the study. Possible explanations for these findings will be addressed in Chapter 5.

From examination of the scores of individuals it is interesting to note that of the 21 Regular Drinkers in seventh grade, only 7 of them are included in the 36 Regular Drinkers in twelfth grade. Two of the original 21 had become alcohol abusers by twelfth grade, one had become a Rare Drinker and 18 were not present for the twelfth grade assessment. The other 29 Regular Drinkers

came from the ranks of the seventh grade Abstainers or Rare Drinkers.

In Table 4.2 are displayed the means and standard deviations of the AAIS scores as well as comparisons for gender differences each year of the study.

Table 4.2 Means and Standard Deviations of AAIS Scores by Sex and Grade

Grade		Male	Female	t ratio	Total
7	N	30	52		82
	Mean	14.4	15.2	-.26	15.0
	S.D.	13.1	15.9		14.9
8	N	22	38		60
	Mean	19.0	22.0	-.07	20.9
	S.D.	12.4	17.1		15.5
9	N	14	26		40
	Mean	17.9	36.1	-3.84 ***	29.7
	S.D.	15.7	13.6		16.7
12	N	17	28		45
	Mean	30.8	31.0	-.70	31.0
	S.D.	9.2	9.3		9.2
Total	N	83	144		227
	Mean	19.3	24.1	--	22.4
	S.D.	14.1	12.2		16.0

* = .05
** = .01
*** = .001

Figure 4.5 will illustrate graphically the data that are presented in Table 4.2.

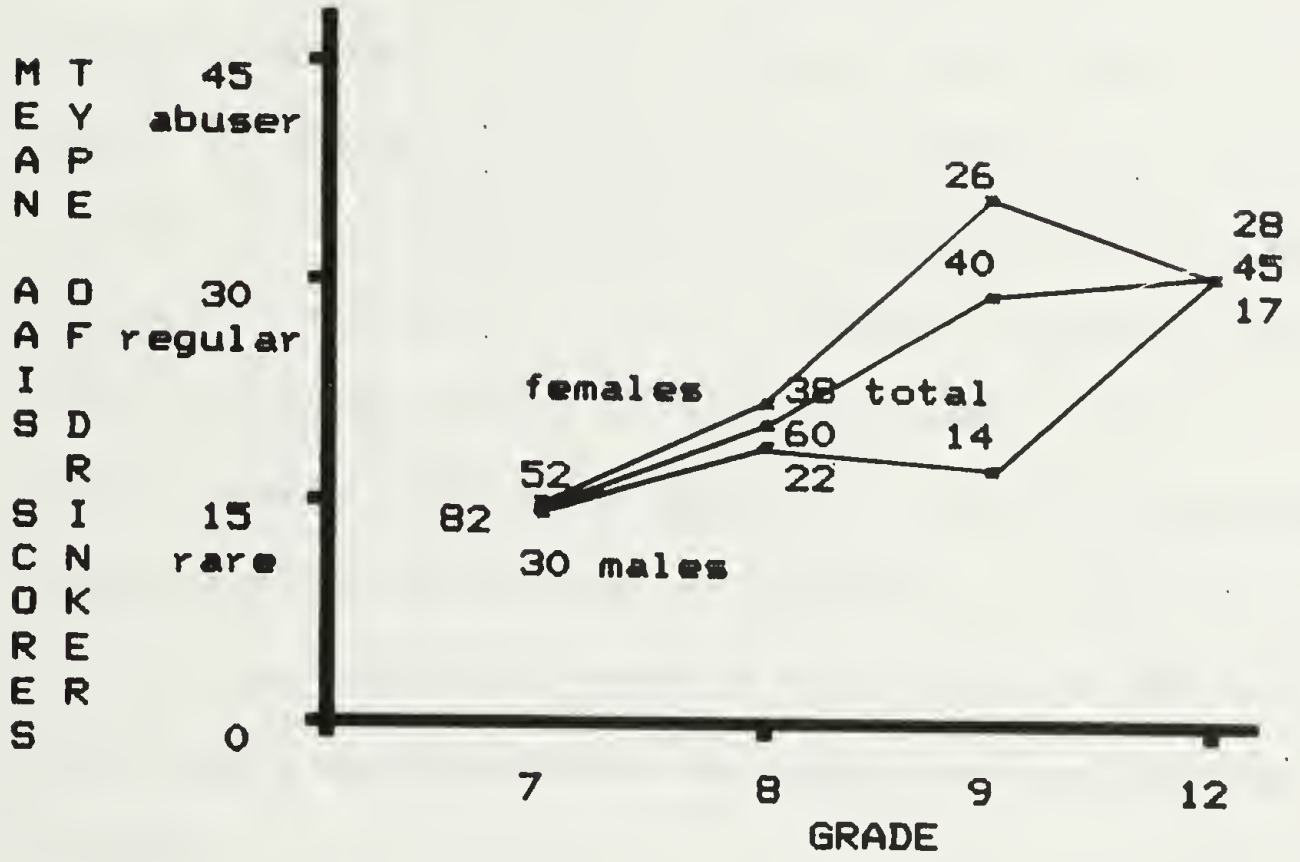


Figure 4.5 Mean Adolescent Alcohol Involvement Scale (AAIS) Scores and Numbers of Subjects by Sex and Grade

In Table 4.2 and Figure 4.5, the data suggest that both male and female adolescents use of alcohol increases as students progress from seventh to twelfth grade. For the males in the study, it is noted that their mean score in seventh, eighth and ninth grades is in the category of Rarely Drink and it is not until twelfth grade that their mean score moves to the category of Regular Drinker. For females and for the total sample in each year it is only in year one, seventh grade, that the mean score is in the Rarely Drink category and for the other years of the study

the mean scores are in the Regular Drinker category. It should be noted that in seventh, ninth and twelfth grade there are no significant differences between the mean AAIS scores by gender. In year three, ninth grade, the AAIS scores of males (17.9, S.D.=15.7) and females (36.1, S.D.=13.6) are significantly different at the .001 level with a t - ratio of -3.84. Although the mean scores in grade 8 and the total of all four years are not significantly different they are of such a difference that they would be classified as different. That is the mean male scores would be classified as Rare Drinkers while the mean female scores would be classified as Regular Drinkers.

In summary it appears that between seventh grade and twelfth grade there is a significant increase in the amount of alcohol use by both males and females and that there are differences in use between males and females.

4.3 Summary of Responses to The Coopersmith Self-Esteem Inventory

The Coopersmith Self-Esteem Inventory (SEI) was used to assess the students' level of self-esteem globally as well as in relation to peers, parents, school and self. Using norms established for the sample population in this study, it is possible to classify students as having high self-esteem with scores ranging from 86 to 100, medium self-esteem with scores falling in the range of 49 to 85,

or low self-esteem with scores in the range of 0 to 48.

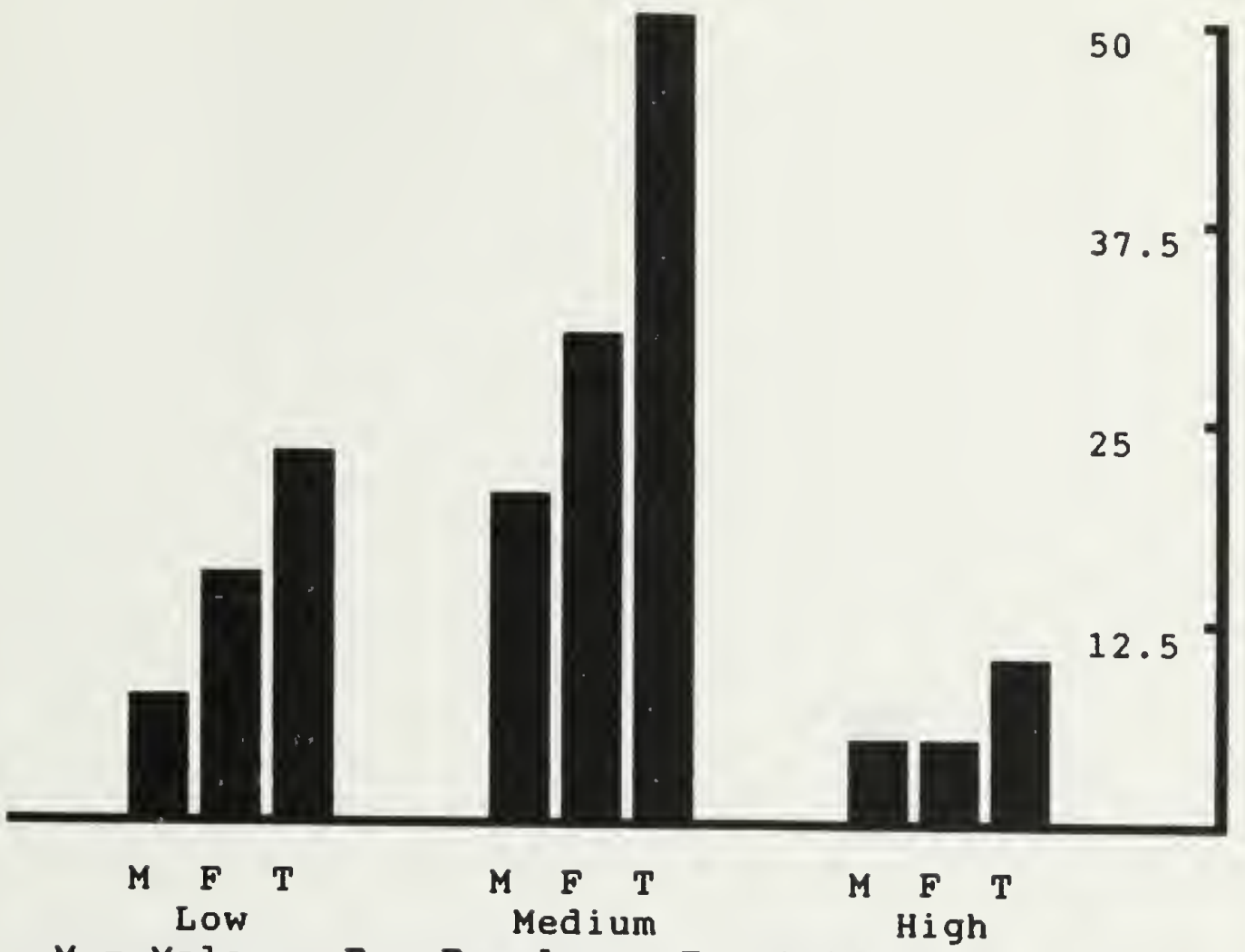
In Table 4.3 the number and percents of subjects in each category of self-esteem based on their total self-esteem scores each year are shown.

Table 4.3 Number and Percent of Subjects in Each Self-Esteem Inventory Category by Sex and Grade

Category of Self-Esteem		Grade 7	Grade 8	Grade 9	Grade 12
Low (0-48)	M	7 (23.3%)	3 (13.6%)	1 (7.1%)	0 (0%)
	F	16 (30.8%)	7 (18.4%)	4 (15.3%)	0 (0%)
	T	23 (28%)	10 (16.7%)	5 (12.5%)	0 (0%)
Medium (49-85)	M	19 (63.3%)	10 (45.5%)	6 (42.9%)	10 (58.8%)
	F	30 (57.7%)	25 (65.8%)	19 (73.1%)	23 (82.2%)
	T	49 (59.8%)	35 (58.4%)	25 (62.5%)	33 (73.3%)
High (86-100)	M	4 (13.3%)	9 (40.9%)	7 (50.0%)	7 (41.2%)
	F	6 (11.5%)	6 (15.8%)	3 (11.5%)	5 (17.8%)
	T	10 (12.2%)	15 (25%)	10 (25%)	12 (26.7%)
Totals	M	30 (36.6%)	22 (36.7%)	14 (35%)	17 (37.8%)
	F	52 (63.4%)	38 (62.3%)	26 (65%)	28 (62.2%)
	T	82 (100%)	60 (100%)	40 (100%)	45 (100%)

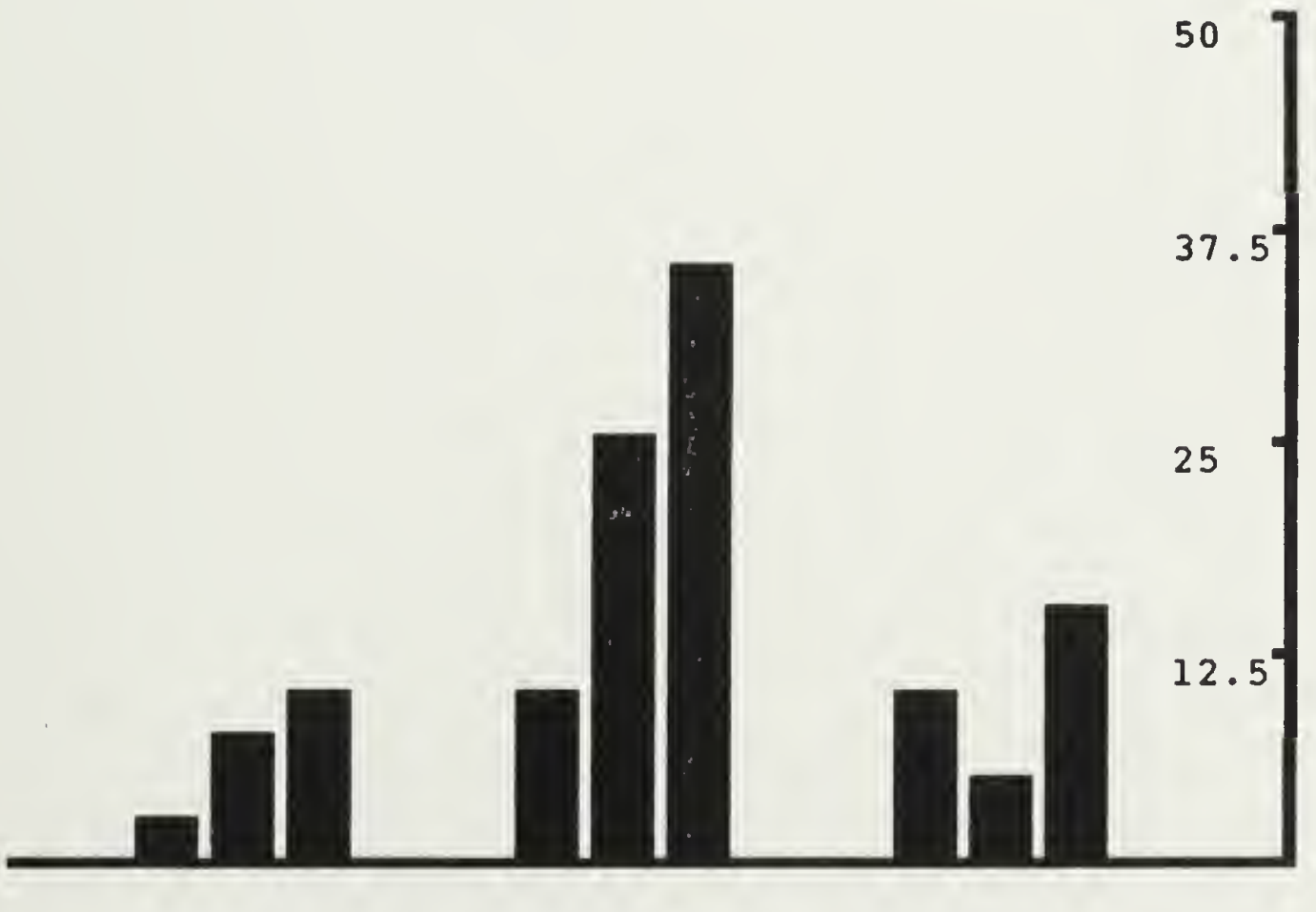
M = Males, F = Females, T = Total

Figures 4.6 through 4.9 on the next two pages will illustrate the data from Table 4.3 graphically.



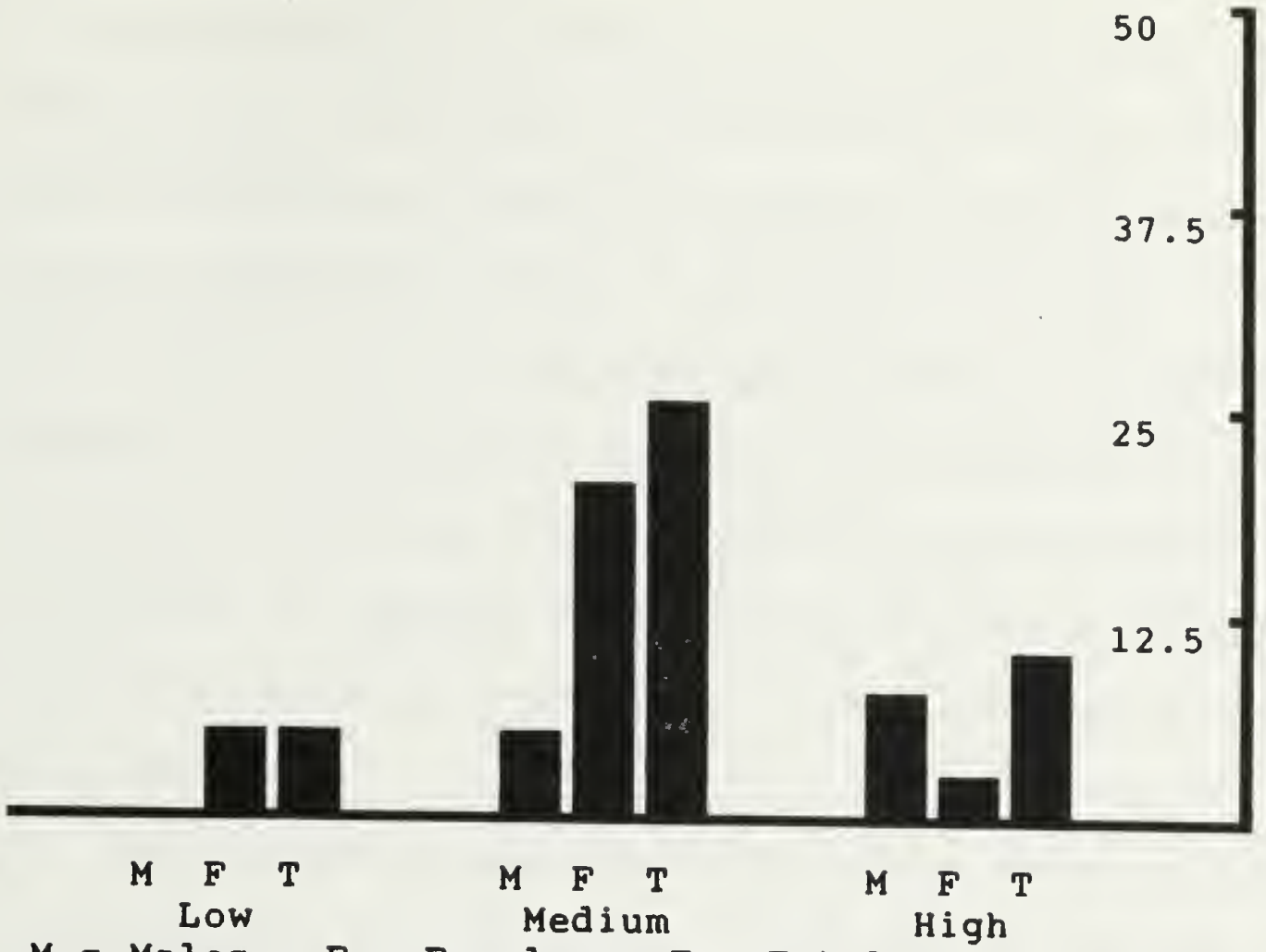
M = Males, F = Females, T = Total

Figure 4.6 Number of Subjects in Each Self-Esteem Inventory Category, Grade 7, N=82



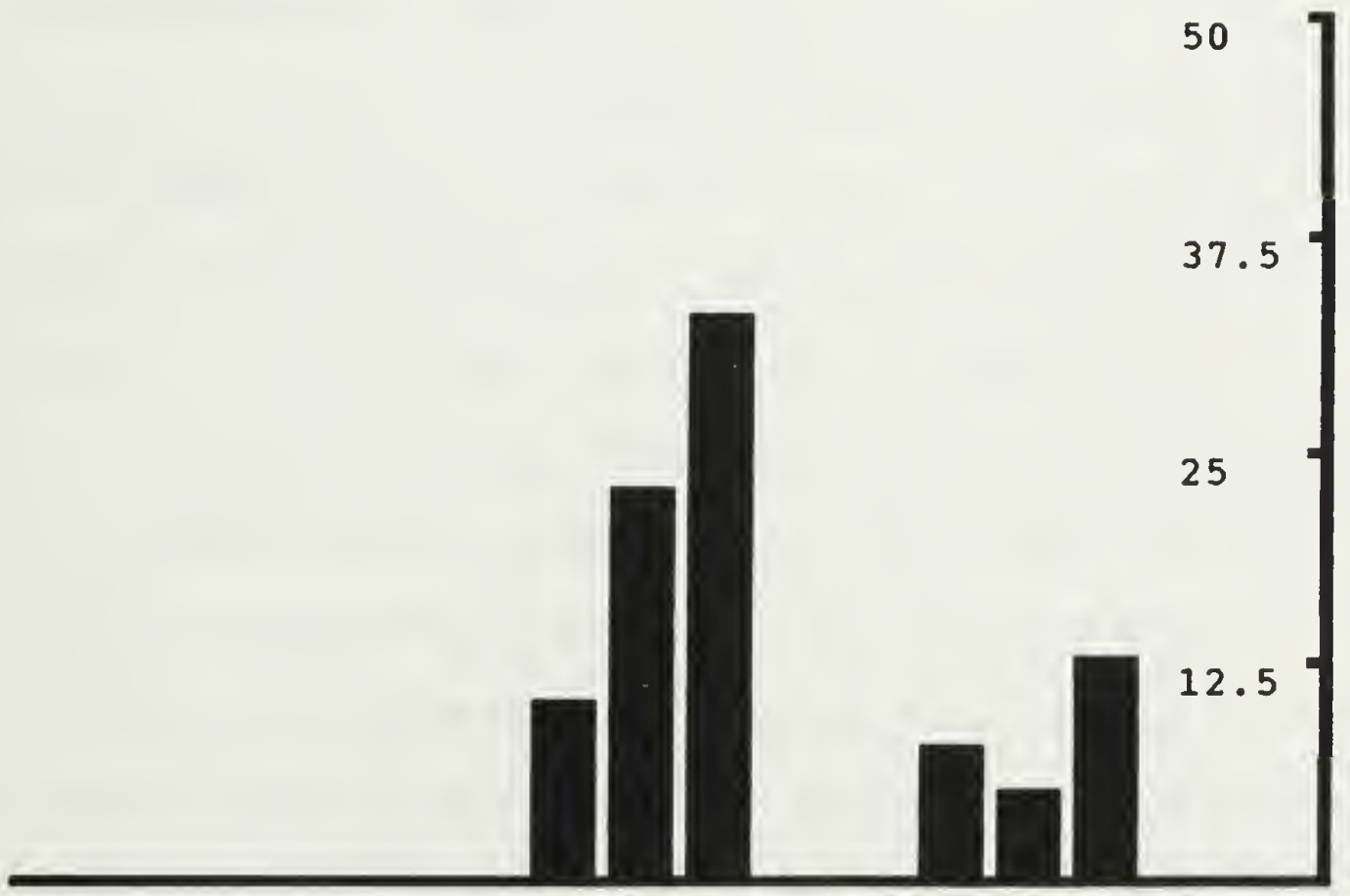
M = Males, F = Females, T = Total

Figure 4.7 Number of Subjects in Each Self-Esteem Inventory Category, Grade 8, N=60



M = Males, F = Females, T = Total

Figure 4.8 Number of Subjects in Each Self-Esteem Inventory Category, Grade 9, N=40



M = Males, F = Females, T = Total

Figure 4.9 Number of Subjects in Each Self-Esteem Inventory Category, Grade 12, N=45

From Table 4.3 and Figures 4.6 through 4.9 it can be observed that the number of students with low levels of self-esteem has an overall decreasing trend between seventh and twelfth grade. The number of subjects of both genders with low self-esteem follow this decreasing pattern. It is important to note that although the percent of females reporting low self-esteem decreases each year, the percent of females with low self-esteem is greater than the percent of males with low self-esteem in grades 7, 8, and 9.

The percent of subjects with medium levels of self-esteem remains fairly constant from seventh through ninth grade and then increases in grade twelve. This increase appears to come from the students in ninth grade with low self-esteem who report an increase in their level of self-esteem. The percent of females reporting medium levels of self-esteem increases each year while the percent of males reporting similar levels of self-esteem decreases from grades 7 to 9 and then increases in grade 12.

Of those subjects with high levels of self-esteem, the overall percent remains fairly constant for each grade with the exception of grade 7. For males there is a trend of increasing percent with high self-esteem, until grade 12 where there is a slight decrease. For females there is a flucuating pattern but no significant increasing trend. It is important to note that in 7th grade the percents of males and females reporting high self-esteem are fairly

close, 13.3% and 11.5% respectively. In subsequent grades the percent of males far outranks the percent of females from 2 to 5 times the percent. Table 4.4 shows the mean Self-Esteem Inventory (SEI) scores and standard deviations for each year of the study and also compares male female differences in these mean scores.

Table 4.4 Means and Standard Deviations of SEI Scores by Sex and Grade

Grade		Male	Female	t ratio	Total
7	N	30	52		82
	Mean	65.9	60.2	1.34	62.3
	S.D.	17.4	18.0		18.5
8	N	22	38		60
	Mean	76.8	63.5	2.65 **	68.4
	S.D.	16.3	18.8		19.0
9	N	14	26		40
	Mean	76.4	62.9	2.38 *	67.7
	S.D.	20.7	15.0		18.1
12	N	17	28		45
	Mean	82.8	74.2	2.77 **	77.3
	S.D.	10.0	11.3		11.5
Total	N	83	144		227
	Mean	73.9	64.2	--	67.3
	S.D.	17.6	17.4		18.5

* = .05
** = .01
*** = .001

Figure 4.10 illustrates the differences between the mean SEI scores each grade and shows the SEI trends from grade to grade.

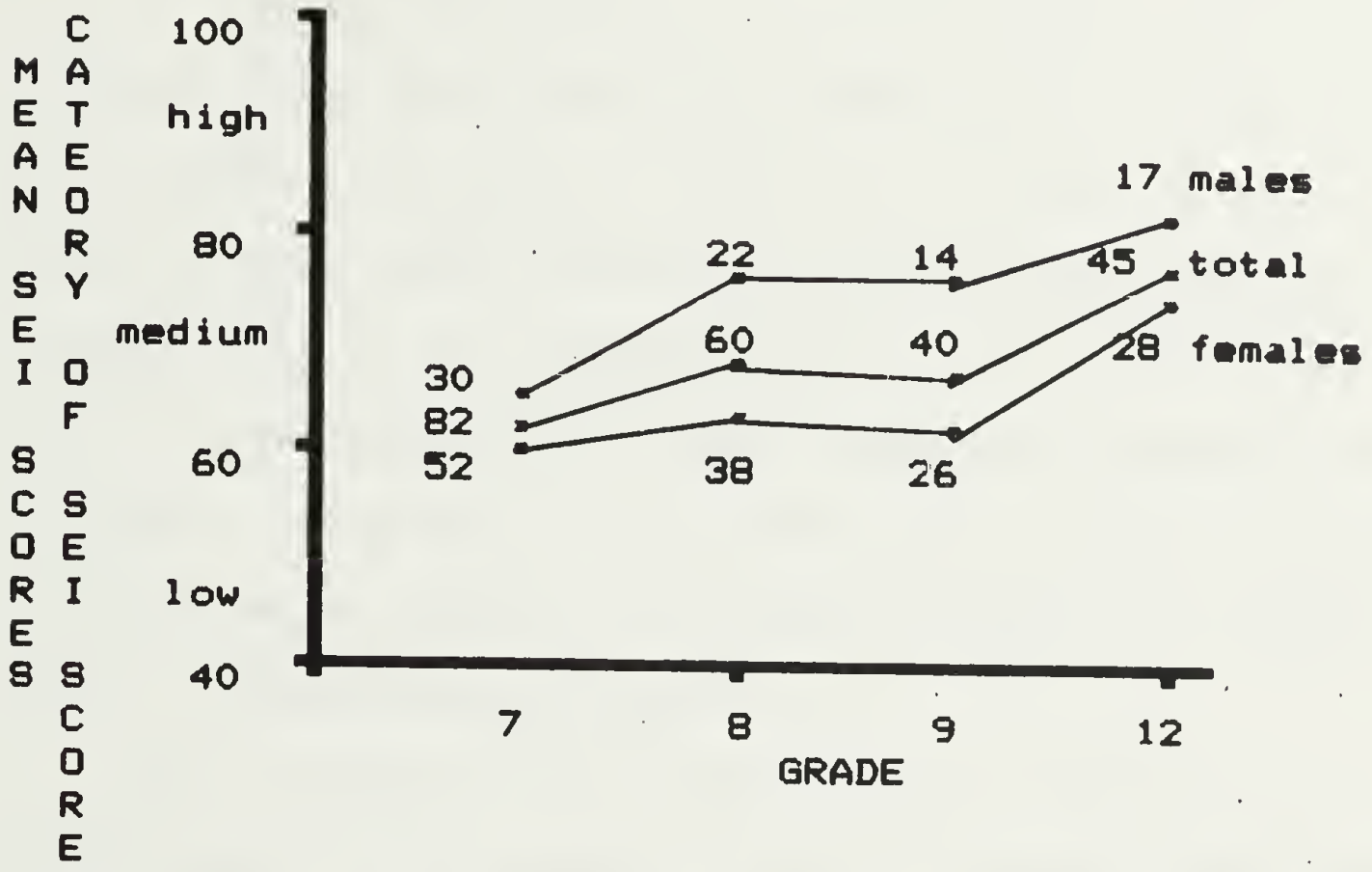


Figure 4.10 Mean Self-Esteem Inventory (SEI) Scores and Numbers of Subjects by Sex and Grade

From Table 4.4 and Figure 4.10 a trend of increasing mean SEI scores is observed for both males and females as well as the total sample each year. This was as expected due to the normal developmental increase in self-esteem. It should also be noted that the mean SEI scores each year for both males, females and the total sample fall in the category of medium self-esteem.

Comparing the mean SEI scores of males and females each year of the study yields significant differences in grades 8, 9 and 12 of the study, with no significant

differences in grade 7. The t - ratios for these three years and their level of significance are as follows: grade 8, t = 2.65 at the .01 level; grade 9, t = 2.38 at the .05 level; and grade 12, t = 2.77 at the .01 level. Although there are significant differences between males and females in grades 8, 9 and 12, it should also be noted that in those years the mean scores of both males and females fall in the category medium level self-esteem. This is perhaps related to the psychometric properties of the SEI. Discussion of the trends observed and the gender differences in means for subjects in grades 8, 9 and 12 will be presented in Chapter 5.

The 37 subjects who dropped out or did not participate in the study in grade 12 had had a mean SEI score of 57.0 in the last year they participated. Males (N=13) and females (N=24) in this group had mean SEI scores of 63.5 and 53.4 respectively. If these students had remained in the study the mean SEI scores reported might be lower.

The means and standard deviations of the subscales and total self-esteem scores for each grade are presented in Tables 4.5 through 4.8 on pages 77 through 80.

From the information presented in Tables 4.5 through 4.8, it appears that for the total number of males females and the whole sample each year the mean subscale scores follow the same general trend as described for the total SEI scores and illustrated in Figure 4.10. The scores

also follow the same general pattern as the norm groups scores described and reported in the SEI manual (Coopersmith, 1981) with the School subscale having the lowest mean score and the Peer subscale having the highest mean score of the equally weighted subscales. This is consistent with Coopersmith's (1981) discussion of social desirability as measured by the Peer subscale as being the factor with the most influence.

Tables 4.9 through 4.12 on pages 81 through 84 contain the subscale intercorrelations. These intercorrelations are somewhat similar but a bit higher than those presented in the Coopersmith manual. For all four grades of the study the subscale with the highest correlation with the Total SEI score is the Self subscale with correlation coefficients of .90, .95, .96 and .81 for all subjects. With coefficients of .80, .76, .86 and .68, the Parent subscale has the next highest correlation with the Total SEI score each year. Among the intercorrelations between the subscales the correlation between the Parent and the Self subscales is the greatest each year with r's of .62, .62, .73 and .37.

With such high correlation coefficients being reported it appears that the various subscales do not really discriminate between sub traits contributing to a total self-esteem score, but are all measuring the same trait.

Table 4.5 Grade 7 Means and Standard Deviations of The Subscale Scores and Total Scores on The SEI by Sex and by Category of Self-Esteem

Category	of Sex	N	Self-Esteem Subscales and Total Self-Esteem PEER (S.D)	PARENT (S.D.)	SCHOOL (S.D.)	SELF (S.D.)	TOTAL (S.D.)
Low SE (0-48)	M	7	7.4 (3.6)	4.8 (3.0)	4.3 (3.5)	25.1 (3.2)	42.6 (6.3)
	F	16	9 (3.7)	4.4 (3.8)	5 (3.4)	20.5 (7.6)	38.6 (9.0)
	T	23	8.5 (3.7)	4.5 (3.5)	4.8 (3.4)	21.9 (8.3)	39.8 (8.3)
Medium SE (49-85)	M	19	11.6 (3.2)	11.1 (3.4)	7.7 (3.4)	38.6 (4.3)	68.9 (9.5)
	F	30	11.5 (3.9)	11.6 (4.0)	8.6 (2.5)	33.7 (5.7)	65.3 (9.3)
	T	49	11.5 (3.6)	11.4 (3.7)	8.2 (2.9)	35.6 (5.7)	66.7 (9.5)
High SE (86-100)	M	4	15.5 (1.0)	16 (0)	16 (0)	47.5 (4.1)	92.5 (6.4)
	F	6	15.7 (.8)	14.3 (1.5)	15 (1.7)	47.3 (4.1)	92.3 (6.4)
	T	10	15.6 (.8)	15 (1.4)	15.4 (.8)	47.4 (3.9)	92.4 (6.0)
Total	M	30	11.1 (3.9)	10.3 (4.6)	8 (5.2)	36.7 (8.1)	65.9 (17.4)
	F	52	11.2 (4.1)	9.7 (5.2)	8.2 (4.0)	31.2 (10.4)	60.2 (19.0)
	T	82	11.2 (4.0)	9.9 (5.0)	8.1 (4.4)	33.2 (9.9)	62.3 (18.6)

M = Males, F = Females, T = Total

Table 4.6 Grade 8 Means and Standard Deviations of The Subscale Scores and Total Scores on The SEI by Sex and by Category of Self-Esteem

			Self-Esteem Subscales and Total Self-Esteem				
Category of	Sex	N	PEER (S.D)	PARENT (S.D.)	SCHOOL (S.D.)	SELF (S.D.)	TOTAL (S.D.)
	M	3	13.3 (2.3)	3.3 (3.1)	1.3 (2.3)	29.3 (1.2)	47.3 (1.2)
Low SE	F	7	6.6 (4.6)	4 (4)	6.3 (2.4)	18.6 (7.8)	35.4 (9.1)
(0-48)	T	10	8.6 (5.1)	3.8 (3.6)	4.8 (3.3)	21.8 (8.2)	39 (9.4)
Medium SE	M	10	11.6 (2.8)	12 (3.1)	9.8 (3.8)	39.6 (4.5)	73 (9.7)
(49-85)	F	25	12.7 (2.7)	10.6 (4)	7.8 (3.1)	33.5 (6.8)	64.8 (10.2)
	T	35	12.4 (2.7)	11 (3.8)	8.4 (3.4)	35.2 (6.8)	67.1 (10.6)
High SE	M	9	14.7 (1.7)	14.7 (2.6)	12.7 (2.6)	48.9 (2.0)	90.9 (5.4)
(86-100)	F	6	15.7 (.8)	15.3 (1.0)	14 (2.5)	45.7 (3.7)	90.7 (5.8)
	T	15	15.1 (1.5)	14.9 (2.1)	13.2 (2.6)	47.6 (3.1)	90.8 (5.3)
	M	22	13.1 (2.7)	11.9 (4.6)	9.8 (4.8)	42 (7.5)	76.8 (16.3)
Total	F	38	12.1 (4.0)	10.1 (5.0)	8.5 (3.8)	32.7 (10.4)	63.5 (18.8)
	T	60	12.4 (3.6)	10.8 (4.9)	9 (4.2)	36.1 (10.4)	68.4 (19.0)

M = Males, F = Females, T = Total

Table 4.7 Grade 9 Means and Standard Deviations of The Subscale Scores and Total Scores on The SEI by Sex and by Category of Self-Esteem

			Self-Esteem Subscales and Total Self-Esteem				
Category of Sex		N	PEER (S.D)	PARENT (S.D.)	SCHOOL (S.D.)	SELF (S.D.)	TOTAL (S.D.)
	M	1	6	2	10	10	28
Low SE	F	4	10 (2.8)	3 (2.60)	5.5 (3)	23 (6)	41.5 (6.4)
(0-48)	T	5	9.2 (3.0)	2.8 (2.3)	6.4 (3.3)	20.4 (7.8)	38.8 (8.2)
Medium SE	M	6	11 (1.7)	10.3 (2.7)	7.7 (1.5)	37 (8.9)	66 (12.2)
(49-85)	F	19	13.3 (3.0)	9.6 (4.5)	7.2 (3.7)	33.5 (6.0)	63.5 (9.8)
	T	25	12.7 (2.9)	9.8 (4.1)	7.3 (3.3)	34.3 (6.7)	64.1 (10.2)
High SE	M	7	14.9 (1.6)	15.7 (.8)	12.9 (2.8)	48.9 (2.8)	92.3 (3.5)
(86-100)	F	3	13.3 (2.3)	13.3 (1.2)	12.7 (1.2)	48.7 (1.2)	88 (0)
	T	10	14.4 (1.8)	15 (1.4)	12.8 (2.3)	48.8 (2.3)	91 (3.6)
	M	14	10.2 (4.9)	12.6 (3.1)	10.4 (3.4)	41 (12.2)	76.4 (20.7)
Total	F	26	12.8 (3.1)	9 (4.8)	7.5 (3.8)	33.6 (8.7)	62.9 (15.0)
	T	40	12.7 (3.0)	10.2 (4.9)	8.6 (3.9)	36.2 (10.5)	67.7 (18.1)

M = Males, F = Females, T = Total

Table 4.8 Grade 12 Means and Standard Deviations of The Subscale Scores and Total Scores on The SEI by Sex and by Category of Self-Esteem

			Self-Esteem Subscales and Total Self-Esteem				
Category of	Sex	N	PEER (S.D)	PARENT (S.D.)	SCHOOL (S.D.)	SELF (S.D.)	TOTAL (S.D.)
	M	0	-	-	-	-	-
Low SE	F	0	-	-	-	-	-
(0-48)	T	0	-	-	-	-	-
Medium SE	M	10	13.2 (3.3)	12 (3.70)	8.8 (3.3)	42.6 (4.9)	76.2 (7.1)
(49-85)	F	23	13.6 (2.1)	10.6 (4.3)	8.7 (3.4)	37.6 (6.0)	70.6 (9.3)
	T	33	13.5 (2.3)	11 (4.2)	8.8 (3.3)	39.1 (6.1)	72.3 (8.9)
High SE	M	7	15.4 (1.0)	15.4 (1.0)	13.1 (3.6)	48.6 (2.8)	92.3 (3.7)
(86-100)	F	5	16 (0)	15.6 (.9)	10.8 (1.1)	44.8 (5.4)	89.6 (3.8)
	T	12	15.7 (.8)	15.5 (.9)	12.2 (3.00	47 (4.3)	91.2 (3.90
Total	M	17	14.1 (2.8)	13.4 (3.4)	10.6 (4.0)	45.1 (5.1)	82.8 (10)
	F	28	13.9 (2.1)	11.5 (4.5)	9.1 (3.2)	38.7 (6.5)	74.2 (11.3)
	T	45	14.0 (2.4)	12.2 (4.1)	9.7 (3.5)	41.2 (6.7)	77.3 (11.5)

M = Males, F = Females, T = Total

Table 4.9 Intercorrelations between SEI Subsacales and SEI Total, Grade 7

r		Peer	Parent	School	Self	Total
Peer	M					
	F	1				
	T					
Parent	M	.68 ***				
	F	.33 **	1			
	T	.45 ***				
School	M	.49 **	.62 ***			
	F	.31 *	.45 ***	1		
	T	.38 ***	.51 ***			
Self	M	.58 ***	.73 ***	.61 ***		
	F	.39 **	.59 ***	.67 ***	1	
	T	.43 ***	.62 ***	.60 ***		
Total	M	.77 ***	.89 ***	.77 ***	.91 ***	
	F	.60 **	.76 ***	.78 ***	.90 ***	1
	T	.65 ***	.80 ***	.75 ***	.90 ***	

Significance levels: * = .05, ** = .01, *** = .001

Table 4.10 Intercorrelations between SEI Subsacales and SEI Total, Grade 8

r		Peer	Parent	School	Self	Total
Peer	M					
	F	1				
	T					
Parent	M	.16				
	F	.43 **	1			
	T	.37 **				
School	M	.00	.71 ***			
	F	.30	.25	1		
	T	.21	.45 ***			
Self	M	.28	.77 ***	.81 ***		
	F	.74 ***	.55 ***	.48 **	1	
	T	.62 ***	.62 ***	.58 ***		
Total	M	.34	.87 ***	.87 ***	.96 ***	
	F	.79 ***	.71 ***	.60 ***	.95 ***	1
	T	.68 ***	.76 ***	.69 ***	.95 ***	

Significance levels: * = .05, ** = .01, *** = .001

Table 4.11 Intercorrelations between SEI Subsacales and SEI Total, Grade 9

r		Peer	Parent	School	Self	Total
Peer	M					
	F	1				
	T					
Parent	M	.84 ***				
	F	.29	1			
	T	.43 **				
School	M	-.39	.53 *			
	F	-.25	.22	1		
	T	-.06	.39 **			
Self	M	.81 ***	.89 ***	.46		
	F	.32	.61 ***	.32	1	
	T	.47 **	.73 ***	.45 **		
Total	M	.87 ***	.95 ***	.61 *	.97 ***	
	F	.41 *	.79 ***	.47 *	.93 ***	1
	T	.55 ***	.86 ***	.57 ***	.96 ***	

Significance levels: * = .05, ** = .01, *** = .001

Table 4.12 Intercorrelations between SEI Subsacales and SEI Total, Grade 12

r		Peer	Parent	School	Self	Total
Peer	M F T	1				
Parent	M F T	.06 .35 .23	1			
School	M F T	.13 .39 * .26	.34 .05 .19	1		
Self	M F T	.28 .14 .18	.14 .37 * .37 **	.40 .05 .24	1	
Total	M F T	.50 * .54 ** .48 ***	.54 * .72 *** .68 ***	.73 *** .42 * .57 ***	.77 *** .77 *** .81 ***	1

Significance levels: * = .05, ** = .01, *** = .001

4.4 Summary of The Adolescent Alcohol Involvement Scale (AAIS) and Self-Esteem Inventory (SEI) Results

The number and percents of students in each different category of drinkers changes from year to year. The percent of subjects who never or rarely drink declines from 68.2% in seventh grade to 8.2% in twelfth grade. The per cent of regular drinkers increases from 25.6% in grade 7 to 80% in grade 12. The percent of alcohol abusers goes from 6.1% to 11.7% to 27.5% to 11.4% over the four years of the study. The overall trend is that of a decreasing number of students who report never or rarely drinking with an increasing number of students becoming regular drinkers with no apparent problems with alcohol.

The percent of students who report alcohol abuse shows an increasing trend for grades 7,8,and 9 and then a decrease in grade 12. Several of the grade 9 alcohol abusers dropped out of the study and several reported reverting to regular type drinking.

The mean scores on the AAIS increase each grade for the males in the study from mean scores in the rarely drink category for grades 7, 8, and 9 to a mean score in the regular drinker category by grade 12. These mean scores each grade for the males are 14.4, 19.0, 17.9 and 30.3. For the females in the study, the mean score increases from a grade 7 score of 15.2 indicating one who rarely drinks to a grade 8 score of 22 indicating a regular drinker. This increasing trend continues in grade 9 with

a mean score of 36.1, again indicating a regular drinker. The mean score in grade 12 of 31.8 shows a slight decline. This decline in grade 12 might be due to attrition. There is a significant difference between the mean scores of the males and females on the AAIS in ninth grade only.

With regard to the SEI scores there is a decline in the per- cent of subjects with low self-esteem from 28% in grade 7 to 0% in grade 12. The percent with medium level scores of self-esteem goes from 59.8% to 73.3% over the same time span. The percent scoring in the high range of self-esteem increases from 12.2% to 26.7% in the four years of the study. The overall trend is that of a decreasing percentage of subjects reporting low levels of self-esteem while at the same time an increasing percentage of subjects reporting medium and high levels of self-esteem over the span of the study.

The mean scores on the SEI increase from 62.3 to 77.3 from grade 7 to grade 12 for the total sample. Both males and females show similar patterns of increase however the mean scores of the males of 76.8, 76.4 and 82.8 in grades 8, 9, and 12 were significantly higher than the female mean scores of 63.5, 62.9 and 74.2 for those same respective grades. The means of the SEI subscale scores follow a pattern similar to the Total SEI mean scores for males, females and the whole sample.

It was noted that there are significant correlations from moderate to high strength between the subscales as

well as between the subscales and the Total SEI scores. As was previously noted, this would suggest that perhaps the subscales on the SEI do not tap different factors of self-esteem, but are all measuring the same trait.

Additional conclusions concerning the AAIS and SEI results will be discussed in Chapter Five. Particular attention will be paid to the high attrition rate and the influence this might have had on the results.

In the next section the results of the data indicating the relationship between the two above discussed variables, AAIS and SEI scores will be presented.

4.5 Hypothesis One

The first hypothesis to be tested was that there was no significant correlation between adolescent alcohol involvement and self-esteem at any one time. This was tested by examining the correlation coefficients between the subjects' scores on the Adolescent Alcohol Involvement Scale (AAIS) and their scores on the Self-Esteem Inventory (SEI) subscales and total Self-Esteem Inventory (SEI) scores each year. In addition to these correlations, additional correlations between the subjects total SEI scores and the square of the AAIS scores will be examined. This will be done because as was noted previously there is a truncation in the range of scores on

the AAIS. There were no subjects who scored in the range 58 to 79 which would indicate alcoholic like drinkers.

In Table 4.13, on page 89, the correlation coefficients between the AAIS scores and the SEI scores, both subscale and total score are presented. Figures 4.11 through 4.14 on pages 90 and 91 are scatterplots representing the relationship between the AAIS scores and the total SEI score each grade. Examination of these correlations from the table and the scatterplots yields a number of interesting observations.

For both males and females and the total group, the correlation between the AAIS scores and the Peer SEI subscale was not significant at any year in the study nor in the total of all four years. Possible explanations for this lack of significant correlation will be presented in Chapter 5.

In grade 7, statistically significant correlations of -.49, -.33 and -.37 between AAIS and the Parent and Self subscales as well as the Total SEI score were obtained. The total sample had significant correlation of -.40, -.19 and -.28 for the same two subscales and the Total SEI. There were no significant correlations for males in the seventh grade. The negative correlations indicate that there is an inverse relationship between the AAIS scores and the SEI scores. That is, subjects who report high levels of alcohol involvement report low levels of self-esteem and vice versa.

Table 4.13 Pearson-R Correlation Coefficients between AAIS and SEI Subscales and Total SEI for Adolescent Subjects in Four Grades over A Six Year Period

GRADE	N	vs		PEER	PARENT	SCHOOL	SELF	TOTAL
		AAIS						
7th grade	30		M	.02	-.16	-.09	.00	.07
	52		F	-.01	-.49 ***	-.26	-.33 ***	-.37 ***
	82		T	.00	-.40 ***	-.19	-.24 *	-.28 **
		AAIS						
8th grade	22		M	-.22	-.57 ***	-.53 **	-.59 ***	-.62 ***
	38		F	.03	-.30	-.28	-.12	-.19
	60		T	-.03	-.38 ***	-.37 **	-.24 ***	-.31 **
		AAIS						
9th grade	14		M	-.09	.00	-.53 *	.06	-.06
	26		F	-.03	.12	-.17	-.05	-.04
	40		T	-.03	-.11	-.43 **	-.18	-.23
		AAIS						
12th grade	17		M	.24	-.24	-.31	-.46	-.35
	28		F	-.01	-.10	.00	-.08	-.12
	45		T	.10	-.14	-.12	-.17	-.18
TOTAL		AAIS						
	83		M	.12	-.12	-.20	.00	-.06
all four grades	144		F	.11	-.22 **	-.20 **	-.08	-.12
	227		T	.10	-.19 **	-.21 **	-.10	-.12

M = Males, F = Females, T = Total

Significance levels: * = .05; ** = .01; *** = .001

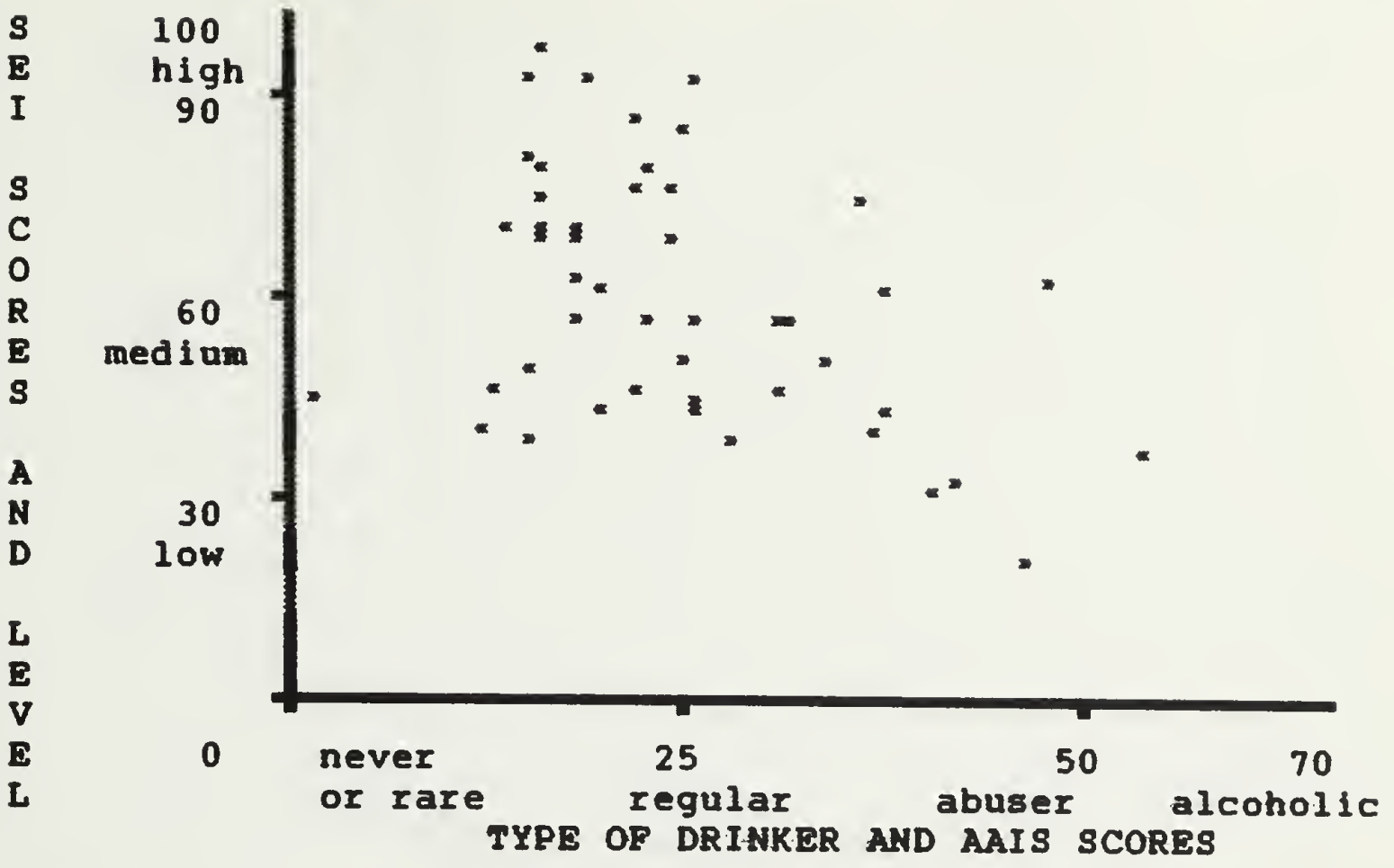


Figure 4.11 Scatterplot of Adolescent Alcohol Involvement vs Self-Esteem Scores, Grade 7, N=82

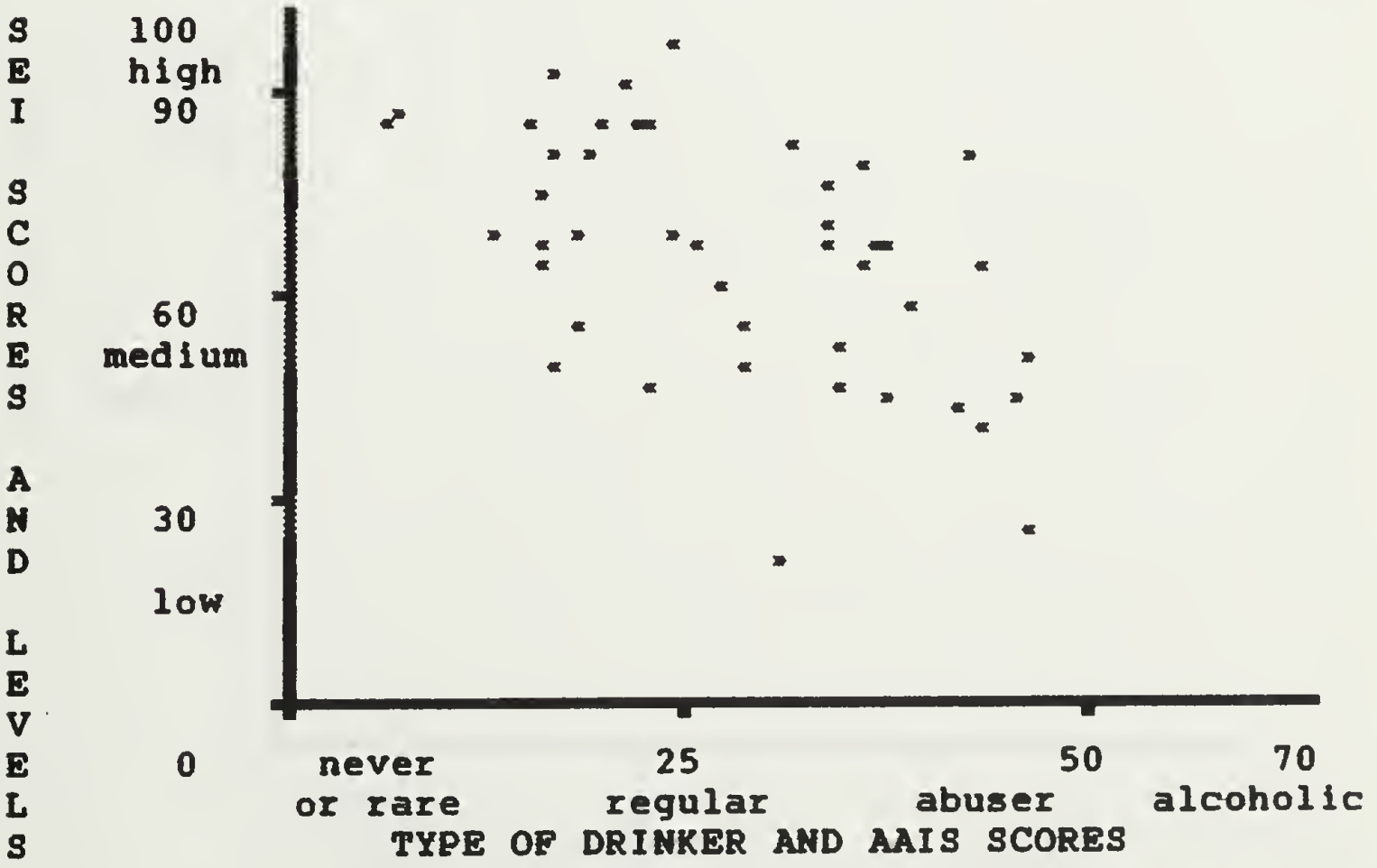


Figure 4.12 Scatterplot of Adolescent Alcohol Involvement vs Self-Esteem Scores, Grade 8, N = 60

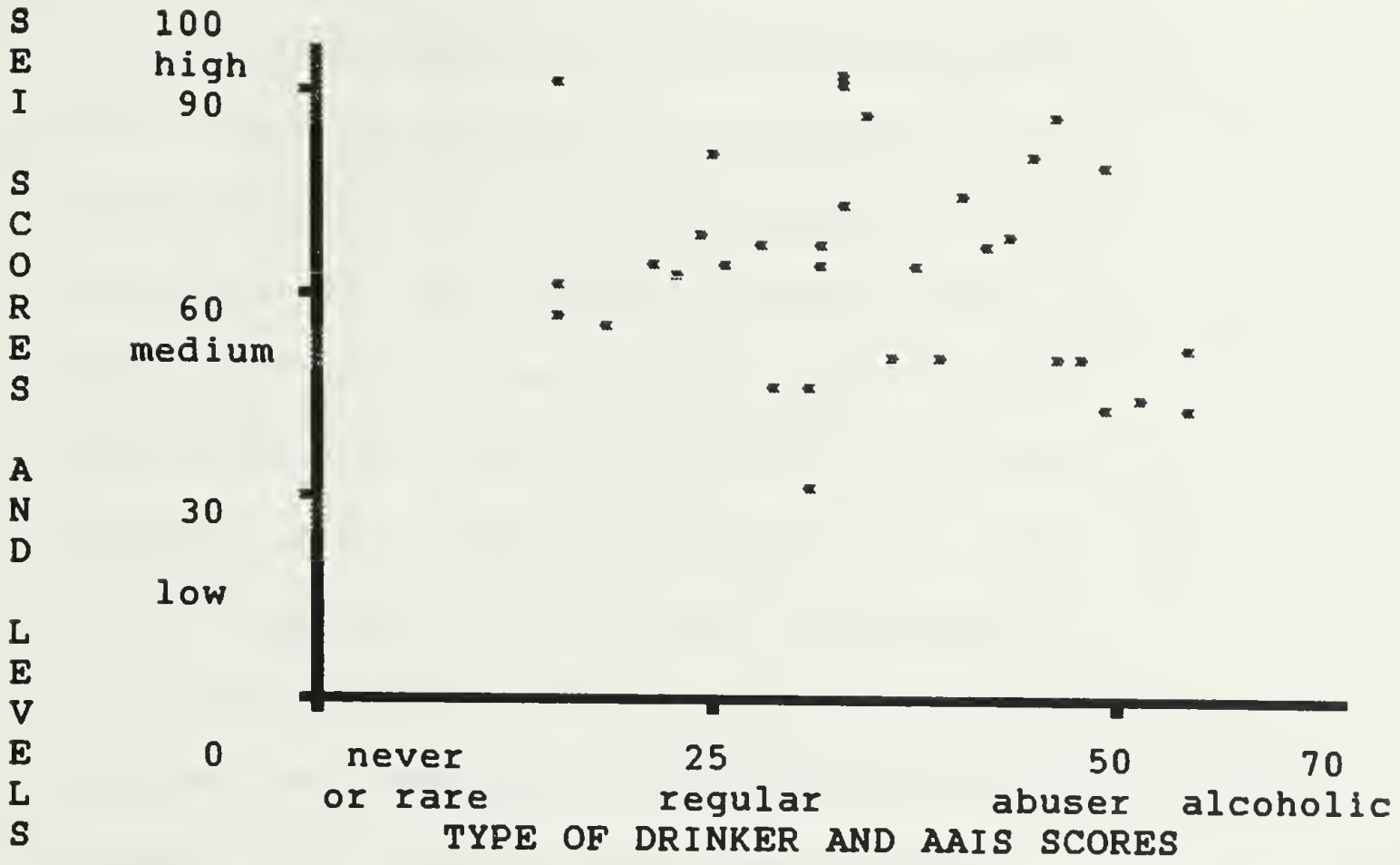


Figure 4.13 Scatterplot of Adolescent Alcohol Involvement vs Self-Esteem Scores, Grade 9, N = 40

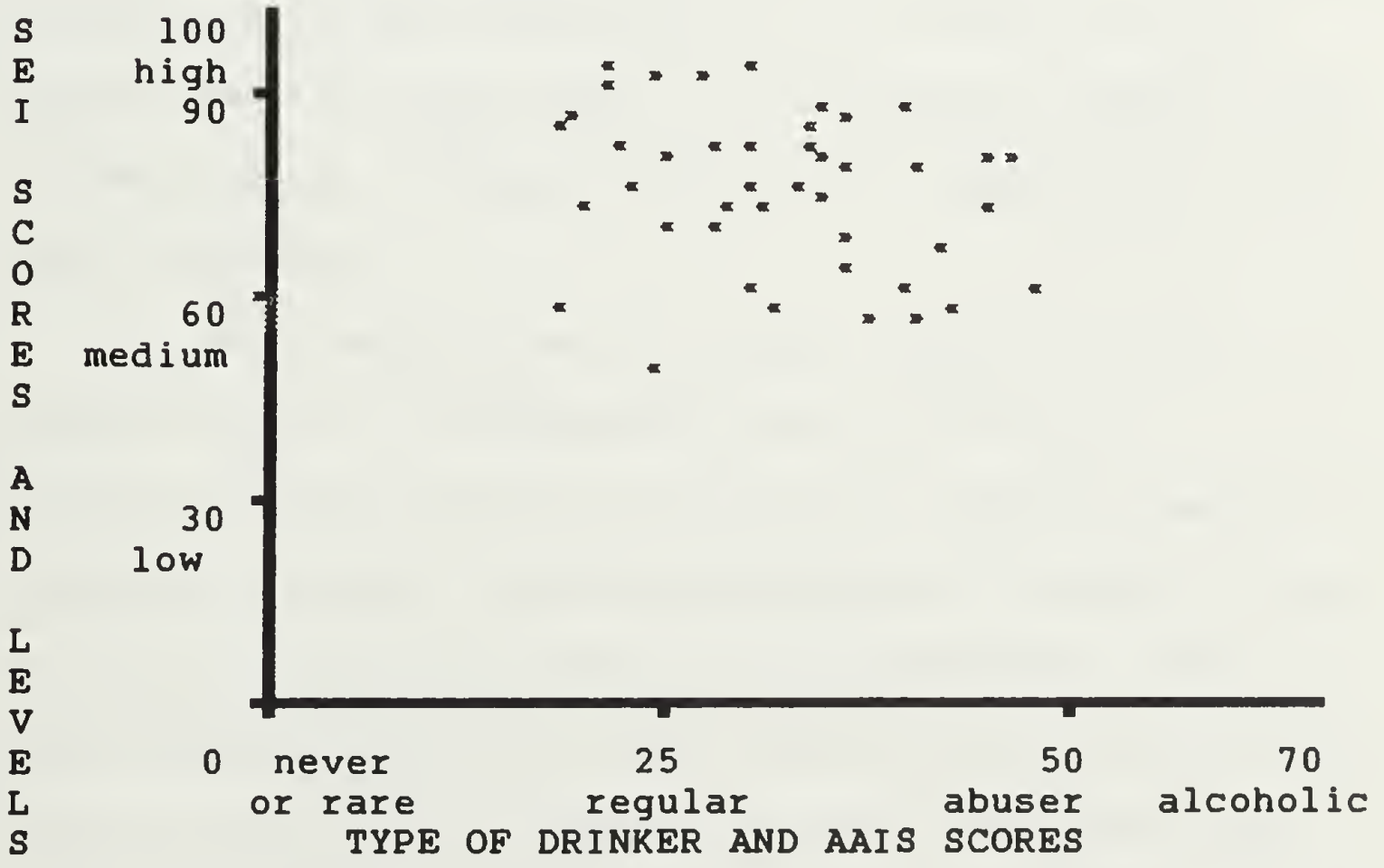


Figure 4.14 Scatterplot of Adolescent Alcohol Involvement vs Self-Esteem Scores, Grade 12, N = 45

In grade eight there were no statistically significant correlations for females. For the males statistically significant correlations of -.57, -.53, -.59 and -.62 are reported for the subscales Parent, School and Self as well as for the Total SEI score. On these same subscales and for the Total SEI scale, lesser but still significant correlations of -.38, -.37, -.24 and -.31 were calculated for the total sample.

In year three, or or grade 9, the only significant correlations were obtained between AAIS and the School subscale for males and the total sample.

In grade 12 there were no significant correlations obtained at all. Calculating correlations between AAIS and the subscales on the combined sample of all four years yielded significant correlations of -.22 and -.19 for females and the total sample for the Parent subscale and -.20 and -.21 for females and the total sample also for the School subscale.

It would appear that for males, females and the combined sample of adolescents that many of the correlations between their AAIS scores and their scores on the Parent, School and Self subscales of the SEI as well as the total SEI are statistically significant. Meaning that subjects who report higher self-esteem simultaneously report lower levels of alcohol use and those who report lower self-esteem report higher levels of alcohol use.

In order to extrapolate the correlation to correct for restriction of the range in the AAIS scores the correlation coefficients between the total SEI scores and the AAIS scores squared were calculated. The results are shown in Table 4.14 on the next page.

The results are very similar to the correlation between the total SEI scores and the AAIS scores. The main difference is that when this exponential correction is used the correlation coefficients between SEI and $AAIS^2$ of -.20 and -.20 respectively for females over four years and the total sample over four years sample become significant.

4.5.1 Conclusion to Testing of Hypothesis One

The results of the data indicate that the first hypothesis should be rejected. It can be concluded that there is a statistically significant correlation between adolescent alcohol involvement and self-esteem at any one time.

Table 4.14 Correlations between SEI Scores and The Squares of The AAIS Scores

Grade	Sex	N	r	t - ratio
7	M	30	-.17	- .92
	F	52	-.43	-3.35 **
	T	82	-.36	-3.53 **
8	M	22	-.65	-3.89 ***
	F	38	-.26	-1.6
	T	60	-.39	-3.19 **
9	M	14	-.03	- .12
	F	26	-.17	- .83
	T	40	-.26	-1.68
12	M	17	-.35	-1.45
	F	28	-.21	-1.09
	T	45	-.26	-1.74
TOTAL	M	83	-.09	- .78
	F	144	-.20	-2.37 *
	T	227	-.20	-3.09 **

Significance Level: * = .05; ** = 01; *** = .001

4.6 Hypothesis Two

In order to test the second second hypothesis, that there is no significant difference between the cross lag correlation coefficients it is necessary to set up and calculate the cross lag panel correlations between the AAIS and SEI scores for each of the six pair of grades in the study. That is between grades 7 and 8, 7 and 9, 7 and

12, 8 and 9, 8 and 12, and 9 and 12. Figures 4-16 through 4-21 in the appendices will display the cross lag correlations for these six pair of grades. In calculating these cross lag correlations the methods described by Bauman (1980), Kenny and Harackiewicz (1979) and Spector (1981) were used. In order for the cross lags to be described within a context it is also necessary to report the synchronious and auto- correlations for each pair of years.

Figure 4.15 illustrates a cross lag panel correlation.

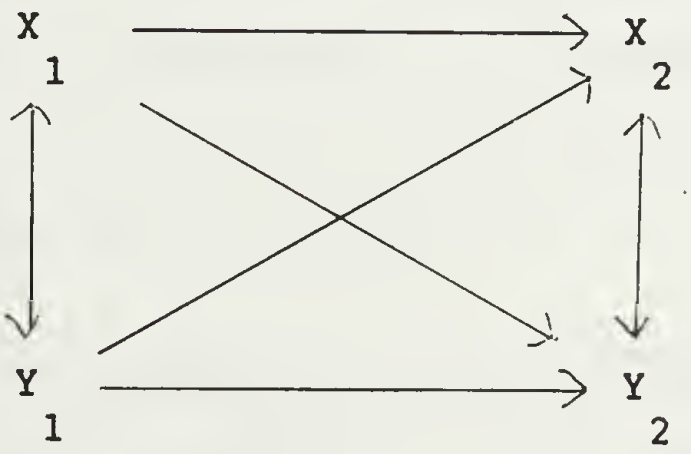


Figure 4.15 Illustration of A Cross Lag Panel Correlation

In Figure 4.15, X_1, Y_1, X_2 and Y_2 represent two different variables, X and Y at two different points in time. Correlation coefficients would be calculated for all 6 possible pairings of variables. Correlations between X_1 and Y_1, and between X_2 and Y_2 are referred to as synchronious correlations. Autocorrelations refer to

the correlations between X_1 and X_2 and between Y_1 and Y_2. The cross lag correlations are those between X_1 and Y_2 and between Y_1 and X_2. If one of the cross lags is significantly greater than the other, for example if rX_1Y_2 was greater than rY_1X_2 it would be concluded the influence of variable X preceded Y in time. If neither of the cross lags is significant or if one is not significantly larger than the other, no conclusion can be reached as to which variable preceded in its occurrence.

In all the cases described below comparing the subjects in the pairs of grades, the comparisons are between the same subjects in each pair of grades.

Figures 4.16 through 4.21 at the end of this chapter illustrate the cross lag correlations by sex and total sample for each pair of grades.

4.6.1 Cross Lag Correlations from Grade 7 to Grade 8

There were 60 subjects, 22 males and 38 females who participated in the study in both grades 7 and 8. The results of the cross lag correlation are shown in Figure 4-16. No statistically signifcant results were obtained for the cross lags between AAIS and SEI comparing grades 7 and 8. However, additional evidence for the rejection of hypothesis one is obtained when one notes the synchronious correlation for grade 7 for the total sample. It is also of interest to note that the AAIS scores are fairly stable from seventh to eighth grade for both females and the

total sample with correlations of .57 and .38 respectively. The SEI scores for the same females are moderately consistent from grade 7 to grade 8 as represented by the correlation of .55.

4.6.2 Cross Lag Correlations from Grade 7 to Grade 9

The number of subjects who are the same in grades 7 and 9 is 40, 14 males and 26 females. Figure 4.17 shows the results of the cross lag correlations. Again for the cross lags there are no statistically significant correlations. Again there is additional support for the hypothesis that AAIS scores are correlated with SEI scores. The relative stability of both the AAIS scores and the SEI scores are again demonstrated. The significant correlations between AAIS from grades 7 to grade 9 for males, females and the total sample are .68, .46, and .50 respectively.

4.6.3 Cross Lag Correlations from Grade 7 to Grade 12

There were 45 subjects, 17 males and 28 females who were included in the sample in both grades 7 and 12. The cross lag correlations are shown in Figure 4.18. None of the cross lags is significant from grades 7 to 12. The stability of the SEI scores is demonstrated with statistically significant autocorrelations of .65 for females and .55 for the total sample. The correlations between AAIS and SEI in grade 7 are significant for females and the total sample with coefficients of -.45 and

-.36 respectively. This again indicates the significant negative correlation between self-esteem and alcohol use.

4.6.4 Cross Lag Correlations from Grade 8 to Grade 9

As shown in Figure 4.19 with the 36 subjects who participated in these two years a statistically significant cross lag correlation of -.51 was found between SEI scores in grade 8 and AAIS scores in grade 9. Since the other cross lag correlation of -.18 is not significant and there is also a difference between the two cross lags of .33 it can be concluded that self-esteem is the stronger influencing factor in future alcohol involvement rather than vice versa. This would indicate that reported low self-esteem in grade 8 has a high probability of being predictive of high alcohol involvement in grade 9. Conversely, high self-esteem in grade 8 would be likely to serve as a protective shield against alcohol abuse in grade 9.

The synchronious correlations in grade 8 between the AAIS and SEI scores for males, females and the total sample again support that there is a significant relationship between the variables. Once again the consistency of the variables over a one year span of time is demonstrated with AAIS grade 8 to AAIS grade 9 significant autocorrelations of .77, .81 and .75 for males, females and the whole sample. From grades 8 to 9 the SEI autocorrelations of .61, .63 and .64 for males,

females and the total subsample are statistically significant.

4.6.5 Cross Lag Correlations from Grade 8 to Grade 12

Referrring to Figure 4.20 it is noted that between grades 8 and 12 there are no significant cross lags. Again there is support for the relationship between AAIS and SEi to be significant and for the stability of the SEI scores over a two year span of time.

4.6.6 Cross Lag Correlations from Grade 9 to Grade 12

The final pair of grades for the cross lags to be calculated yield significant results for the cross lag correlation of SEI grade 9 with AAIS grade 12 for both the 17 females and the total sample of 23 in this group. Shown in Figure 4-21, these cross lag correlations of -.49 and -.51 respectively support the conclusion stated after comparing the cross lags between graades 8 and 9. That is, that low or high self-esteem precedes and predicts future high or low alcohol involvement respectively to a greater degree rather than vice versa.

4.6.7 Conclusion to Testing of Hypothesis Two

For two pair of grades, from grades 8 to 9 and grades 9 to 12, it has been demonstrated that the cross lag correlations between self-esteem in the earlier grade and alcohol involvement in the later grade are significantly greater than vice versa.

The data indicate that Hypothesis Two should be partially rejected. There is a significant difference between cross lags and the conclusion is that high or low reports of self-esteem precede low or high reports of level of alcohol involvement from grades 8 to 9 and from grades 9 to 12.

From grade 8 to grade 9 and from grade 9 to grade 12, the cross lag correlation coefficients were calculated between the AAIS scores and the SEI subscale scores in order to determine which of the subscales of the SEI were most influential in producing the effect. Figures 4.22 through 4.29 at the end of the chapter show these cross lag correlations.

4.7 Cross Lag Correlations with SEI Subscales

4.7.1 Cross Lags with Subscales, Grades 8 to 9

The cross lags from grade 8 and grade 9 for AAIS and all the SEI subscales are shown in Figures 4.22 through 4.25. Between grades 8 and 9 the stability of the AAIS measure and the subscale measures are demonstrated by the moderate to strong significant autocorrelation coefficients. The relationship between AAIS and all the subscales is shown to be significant for grade 9. In grade 9 there are significant correlations between AAIS and the School subscale for females and the total in this grade 9 sub sample.

The four cases where there are significant cross lags are between AAIS grade 8 and the School subscale grade 9 for males, between the School subscale grade 8 and AAIS grade 9 for the total subsample, between the Self subscale grade 8 and AAIS grade 9 for males, and between the Self subscale grade 8 and AAIS grade 9 for the total subsample.

Figure 4.24 representing the cross lag between AAIS and the School subscale shows the first two of these significant cross lag correlations. These are a correlation of -.59 between AAIS grade 8 and the School subscale grade 9 for males and a correlation of -.43 between the School subscale grade 8 and AAIS grade 9 for the total sub-sample. For males, high or low alcohol involvement in grade 8 precedes low or high self-esteem in relation to school in grade 9. For this segment of the combined sample of males and females the opposite appears to be the case. That is, high or low self-esteem in school precedes low or high involvement with alcohol.

Figure 4.25 which represents the cross lag between AAIS and the Self subscale for grades 8 and 9 shows significant cross lags of -.56 and -.55 between the Self subscale grade 8 and the AAIS scores grade 9 for males and the combination of males and females respectively. That is in both of these groups, low or high scores on the Self subscale precedes high or low involvement with alcohol rather than the opposite.

4.7.2 Cross Lags with Subscales, Grades 9 to 12

Figures 4.26 through 4.29 at the end of the chapter show the cross lag correlations between the AAIS scores and the SEI subscale scores for grades 9 and 12.

There is evidence to support the stability of AAIS with individuals over time from ninth to twelfth grade as demonstrated by the correlation coefficients of .74, .59 and .63 respectively for males, females and total. With the exception of the Self subscale for the whole group in this subsample there is little stability in the scores from grade 9 to grade 12.

Figure 4.26, which pictures the cross lag between AAIS and the Peer subscale shows significant cross lags of-.55 and -.53 for females and the combined total of males and females in this group between Peer self esteem grade 9 and alcohol involvement grade 12. Low self-esteem in relation to peers in grade 9 precedes and is predictive of heavy involvement with alcohol in grade 12. High self-esteem in relation to peers in grade 9 precedes and is predictive of low involvement with alcohol in grade 12.

In Figure 4.28 in can be seen that there is a significant cross lag correlation of -.44 between the School subscale year three and AAIS year four for the total males and females in this sub group. Again, the high or low self-esteem in relation to school in grade 9 precedes and is predictive of low or high alcohol involvement respectively in grade 12.

Although the cross lags shown in Figure 4.29, representing the correlations between the AAIS scores grade 9 and the Self subscale scores grade 12 are significant, they are not different from each other and therefore it is impossible to determine which variable has a preceding influence on the other.

4.8 Conclusion to Cross Lag Analysis

From the analysis of the cross lag panel correlations a number of conclusions can be reached. The AAIS scores of the subjects are fairly stable over times of one or two years, but unstable over the six year span from grade 7 to grade 12. The SEI scores are also relatively consistent from year to year and over the span of the study. Additional support for hypothesis one is also obtained from the synchronious correlations between AAIS and SEI at any one time. The significant cross lag differences noted between grades 8 and 9 and grades 9 and 12 suggest that variations in SEI scores precede opposite variations in AAIS scores. That is low or high levels of self-esteem precede high or low levels of alcohol involvement respectively.

The results of the cross lag panel correlations between AAIS and the SEI subscales for the pairs of grades 8 and 9 and 9 and 12 provide us with additional information. The stability of the AAIS scores over time is again supported. The stability of all subscales, that

is Peer, Parent, School and Self are moderately stable over a one year time lag, but over a three year lag from grade 9 to 12 only the Self subscale can be called stable. Most of the synchronious correlations again support the statistically significant negative relationship between AAIS scores and the SEI subscale scores.

Significant cross lags between the Peer, Parent, School and Self subscales in an earlier year and AAIS in a later year suggest that variatuions in these subscale scores precede and predict variations in the AAIS scores.

The one cross lag that suggested that the variation in AAIS preceded variation in an SEI sub scale was for males between AAIS in grade 8 and School SEI in grade 9. That is, high alcohol involvement by eighth grade boys preceded and predicted low self-esteem in relation to school for these same boys in ninth grade. At the same time, high reports of self-esteem in grade 8 predicted low involvement with alcohol in grade 9. This was not the case for males from grade 9 to grade 12.

4.9 Summarization of Findings

The results presented in this chapter indicate general trends of increasing alcohol involvement by both males and females over time from grade 7 to grade 12. A trend toward increasing levels of self-esteem over that same time period is noted. Although there is this general trend, the scores from year to year on both variables are

relatively stable for individuals. There is moderate to strong intercorrelation among the SEI subscales and between the SEI subscales and the Total SEI scores. These statistically significant intercorrelations suggest that the SEI and its subscales tap the same trait, rather than the subscales assessing different dimensions of self-esteem.

Regarding the corrleation between adolescent alcohol involvement and self-esteem at any one time it was observed that there were moderate to strong statistically significant correlations in grades 7 between AAIS and the Total SEI, the Parent subscale and the Self subscale for females and the total sample. In the 8th grade, statistically significant correlations of moderate to high strength were reported between AAIS and the Total SEI and the Parent, School and Self subscales for males and the total sample. In grade 9 there are moderate to strong correlations between AAIS and the School subscale for males and the total sample. For the combined sample over four years there are significant correlations between AAIS and two of the subscales, Parent and School. For this combined sample when correction is made for restricted range the Total SEI scores correlate significantly with the AAIS scores squared.

The cross lag correlations with one exception suggest that where there are significant coefficients, it is the variation in the SEI scores or the SEI subscale

scores in an earlier year that precede the opposite variation in AAIS scores.

The meanings and implications of these results will be discussed in Chapter 5.

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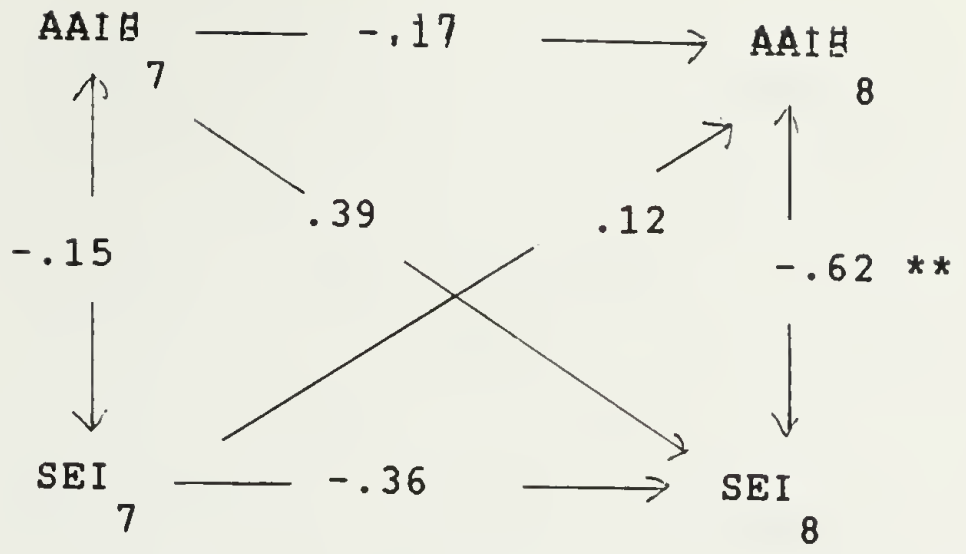
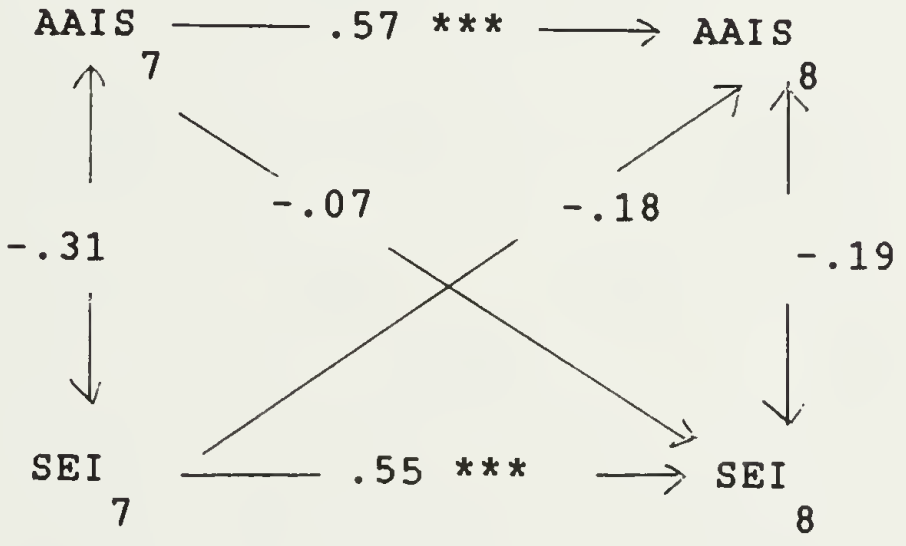
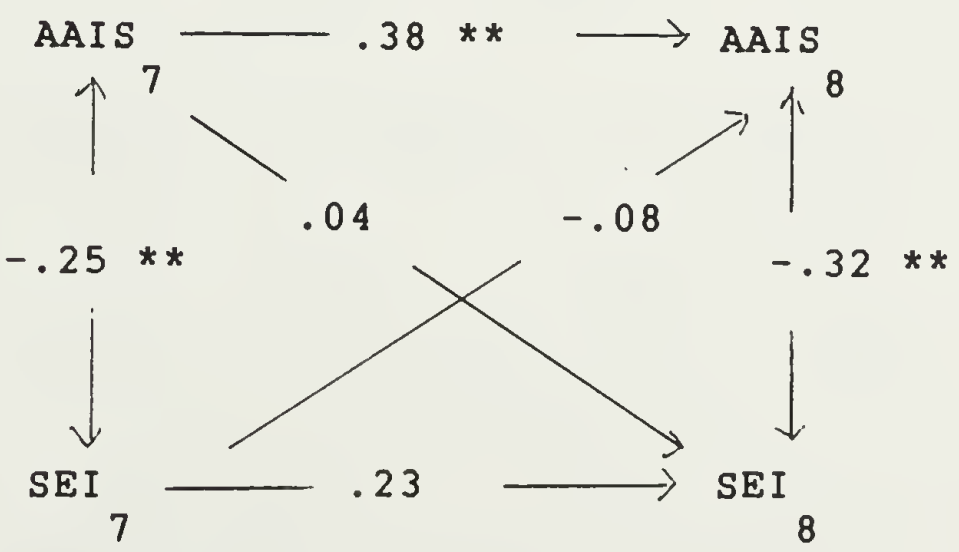


Females N=38



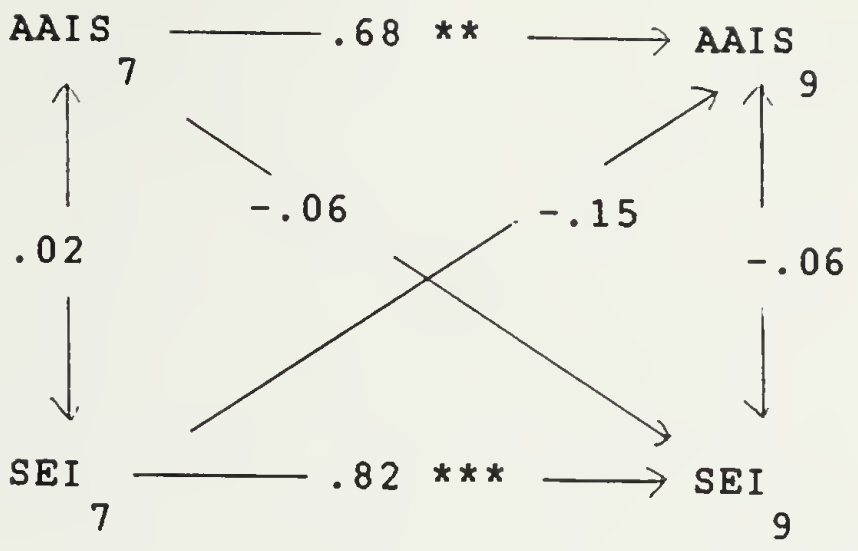
Total N=60



Significance Level: * = .05; ** = .01; *** = .001

Figure 4.16 Cross Lag Correlations from Grades 7 to 8

Males N=14



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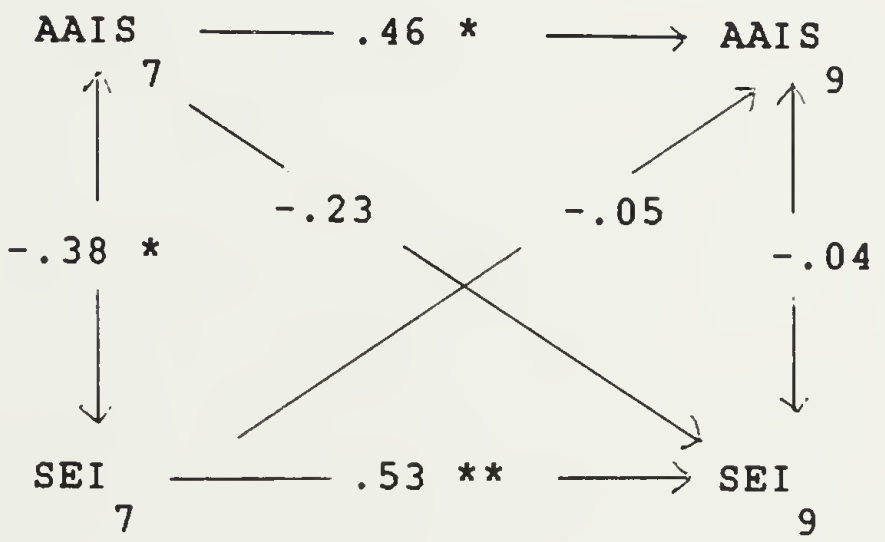
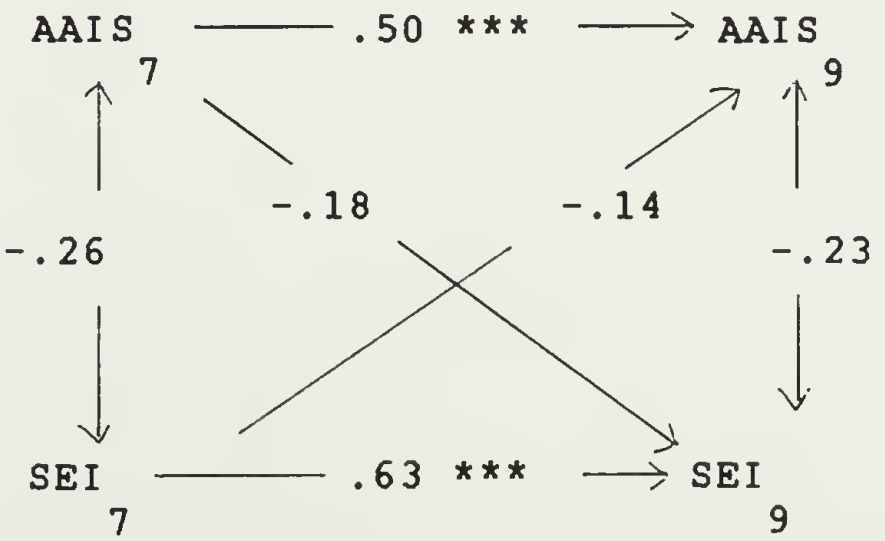


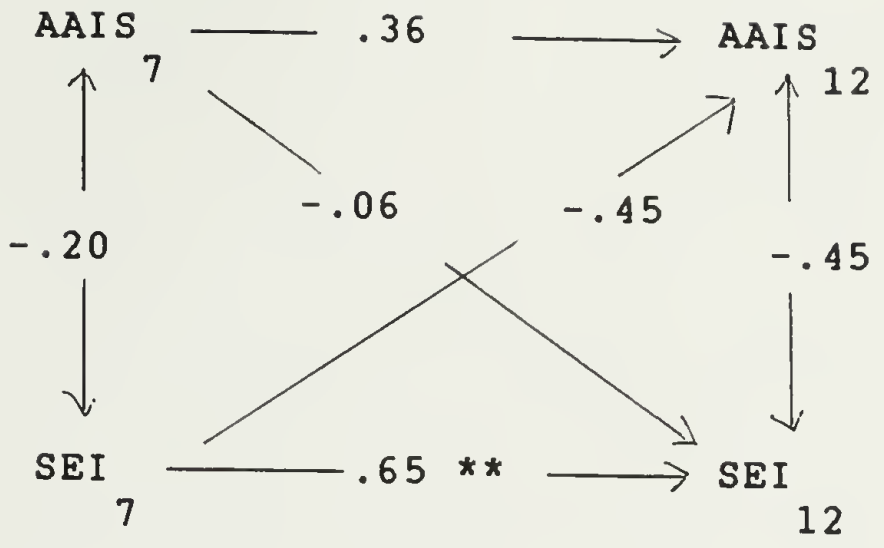
Total N=40



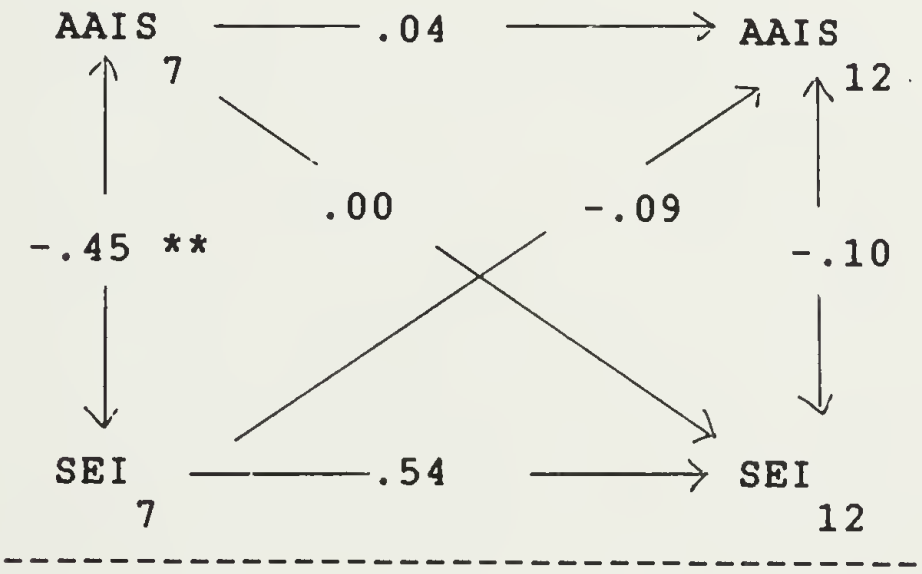
Significance Level: * = .05; ** = .01; *** = .001

Figure 4.17 Cross Lag Correlations from Grades 7 to 9

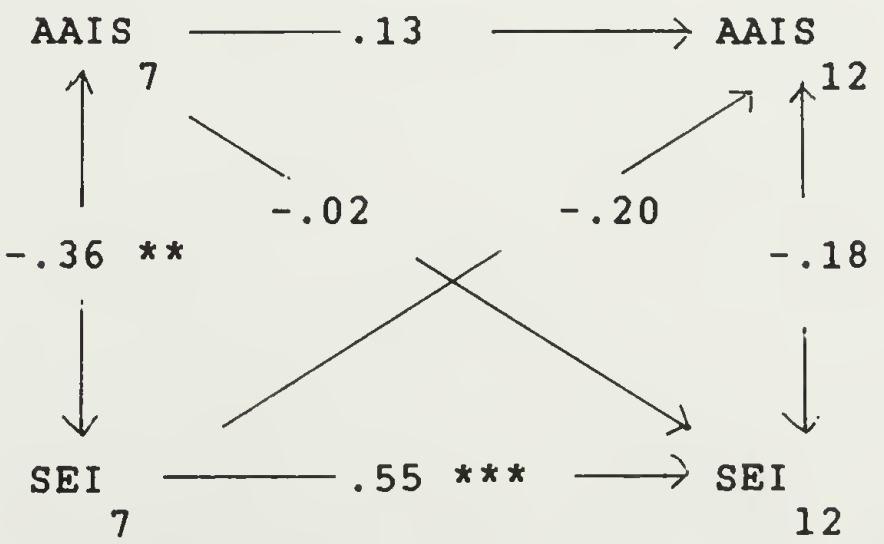
Males N=17



Females N=28



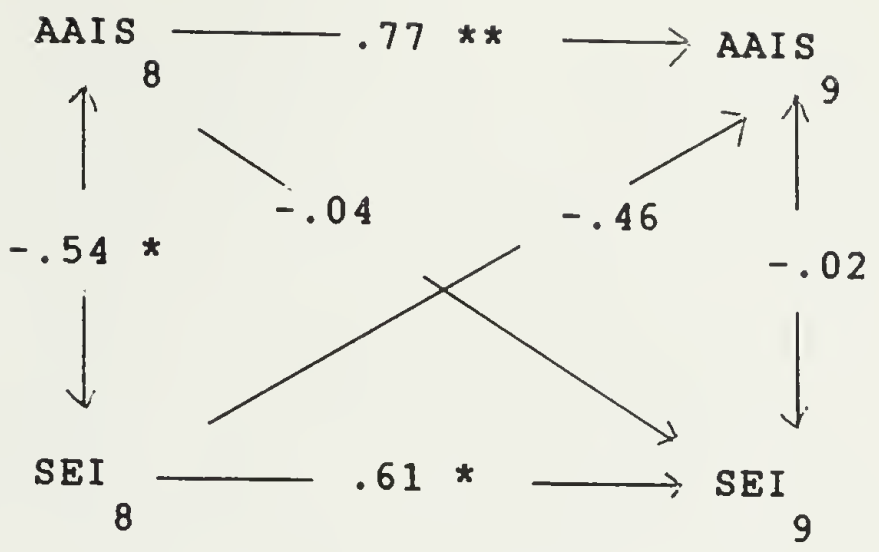
Total N=45



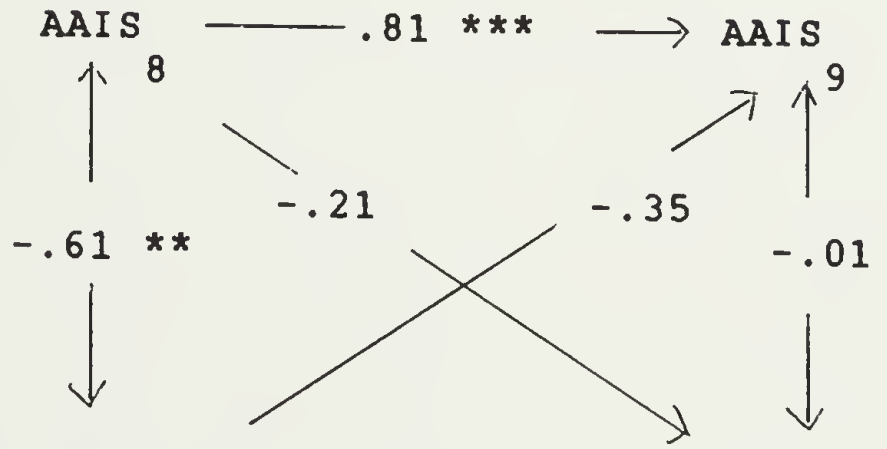
Significance Level: * = .05; ** = .01; *** = .001

Figure 4.18 Cross Lag Correlations from Grades 7 to 12

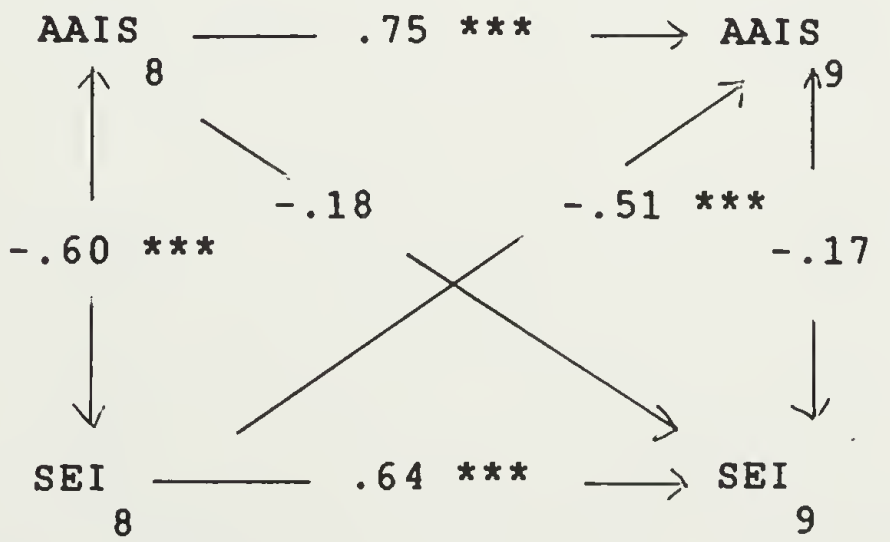
Males N=13



Females N=23



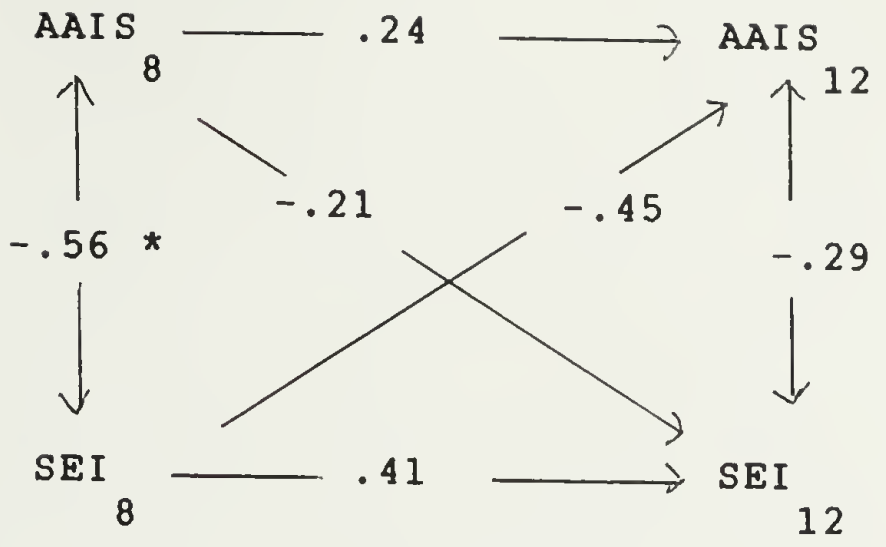
Total N=36



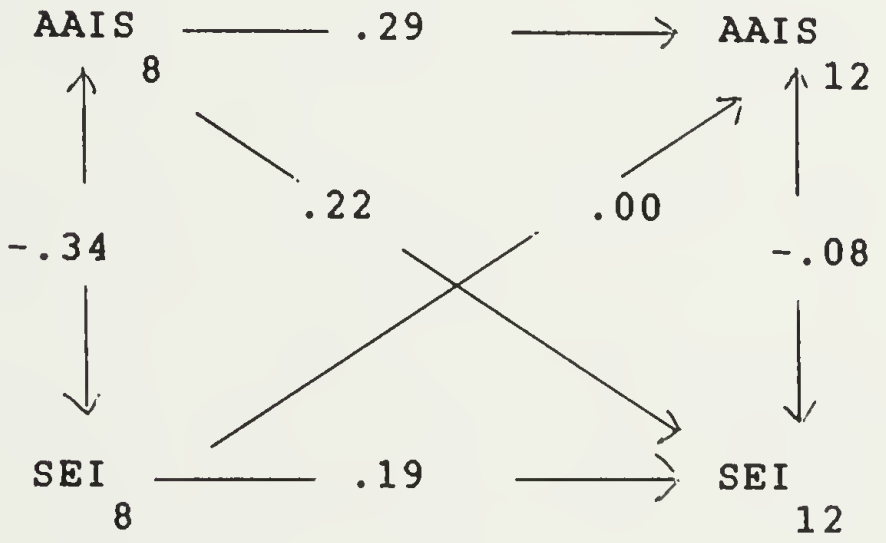
Significance Level: * = .05; ** = .01; *** = .001

Figure 4.19 Cross Lag Correlations from Grades 8 to 9

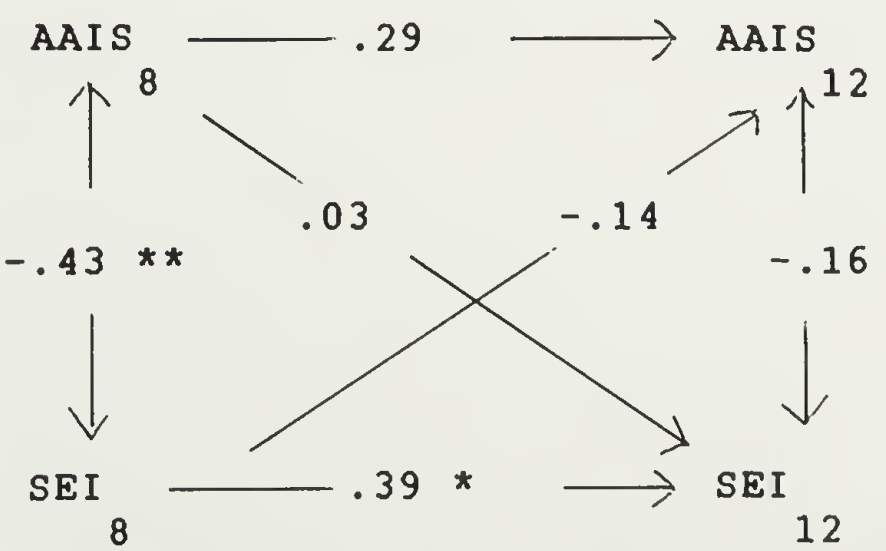
Males N=13



Females N=23



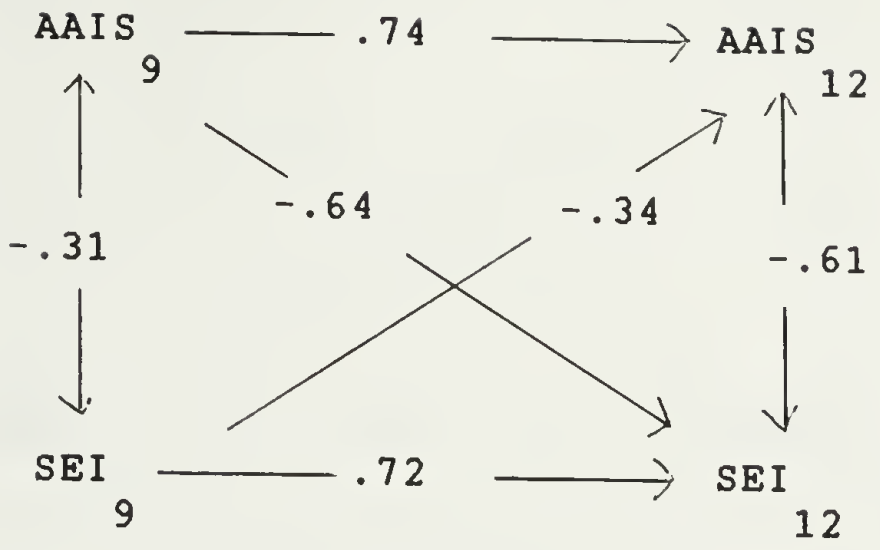
Total N=36



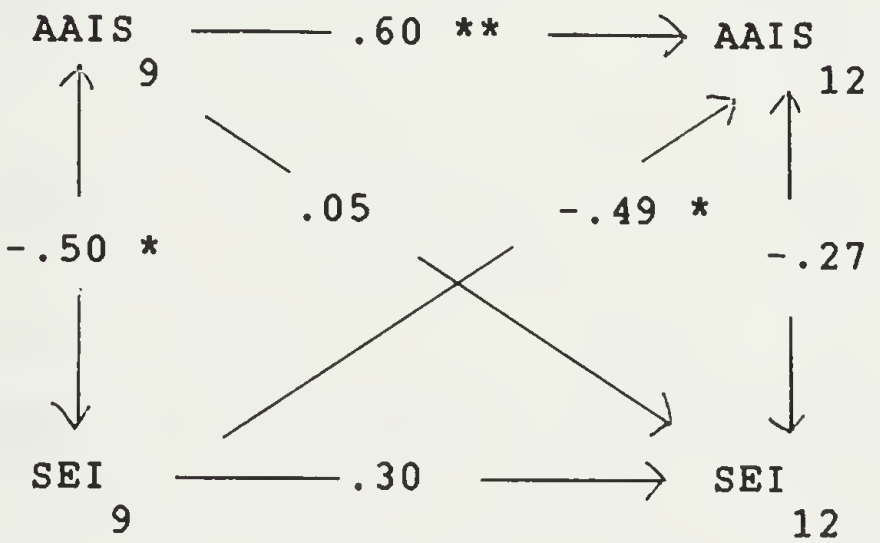
Significance Level: * = .05; ** = .01; *** = .001

Figure 4.20 Cross Lag Correlations from Grades 8 to 12

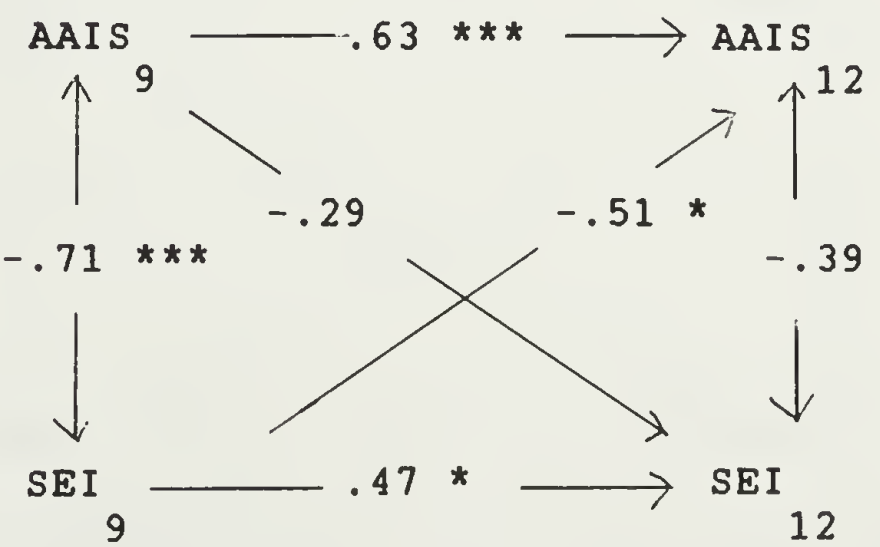
Males N=6



Females N=17



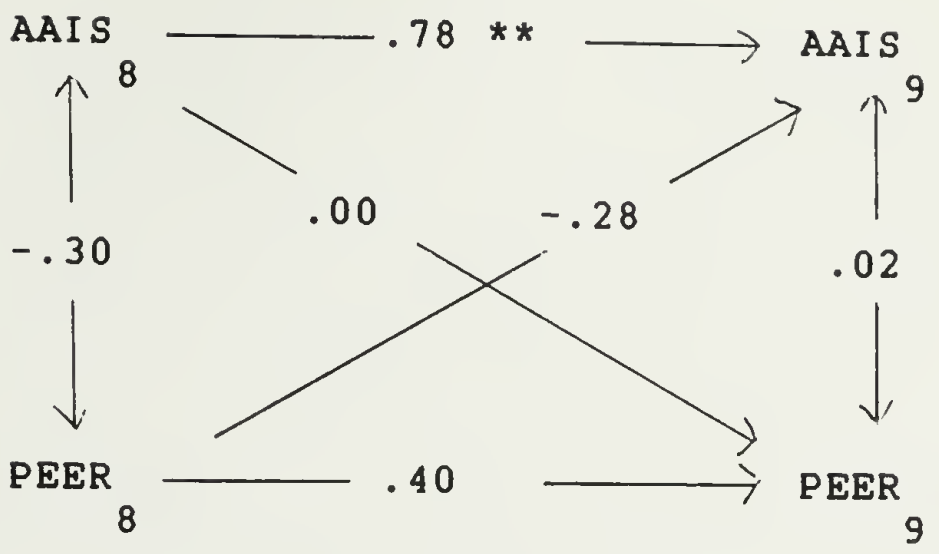
Total N=23



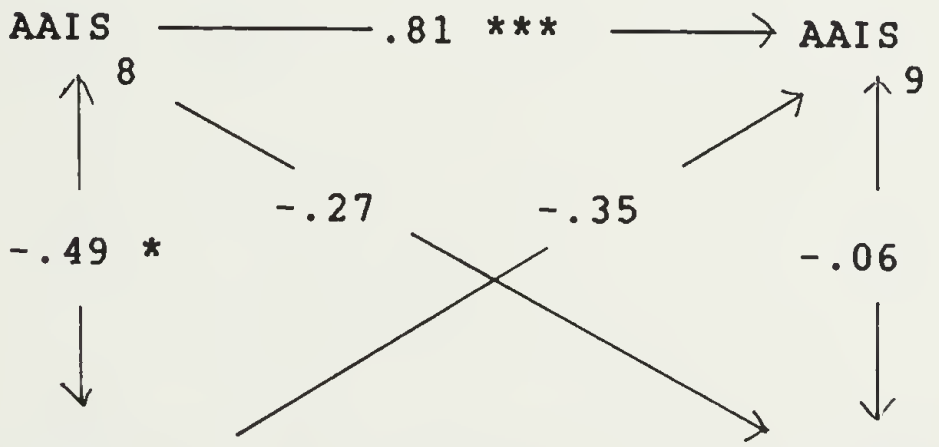
Significance Level: * = .05; ** = .01; *** = .001

Figure 4-21 Cross Lag Correlations from Grade 9 to 12

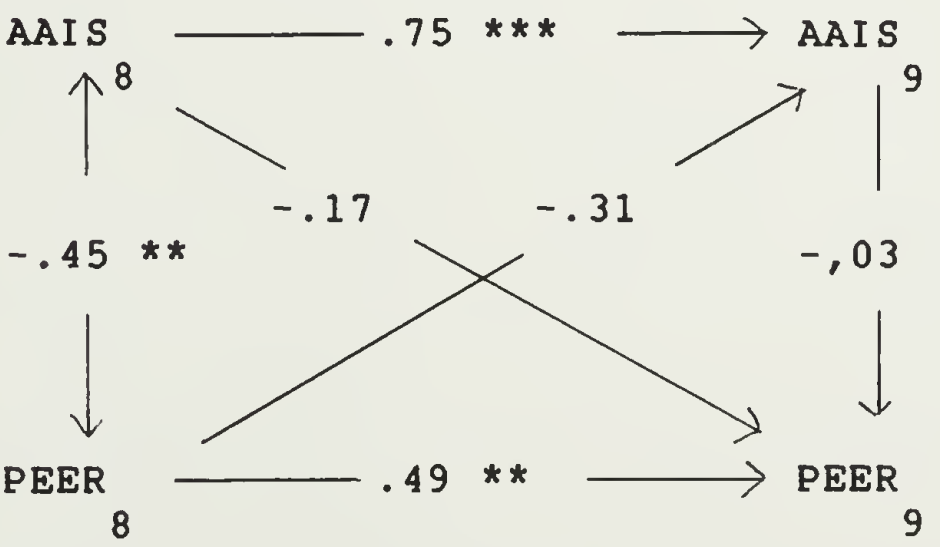
Males, N=13



Females, N=23



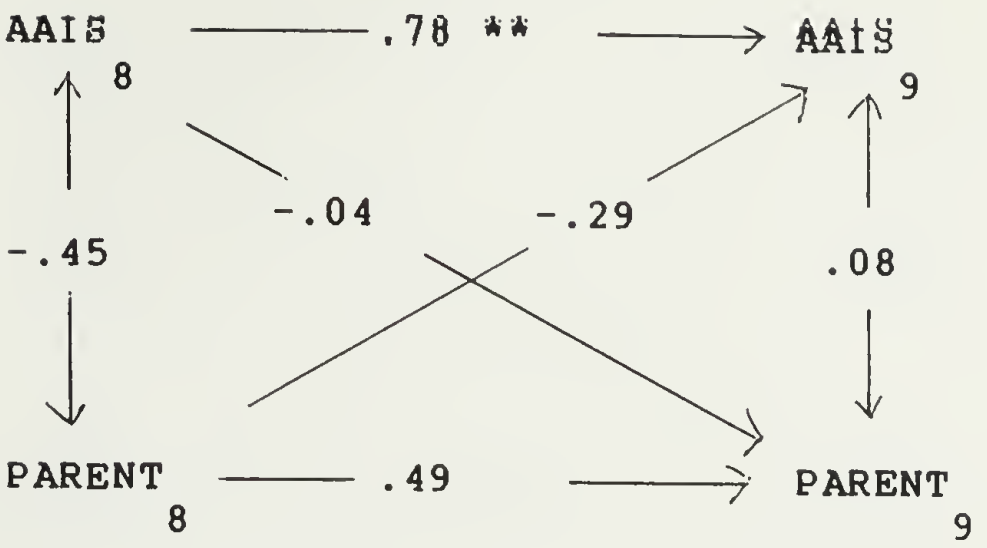
Total, N=36



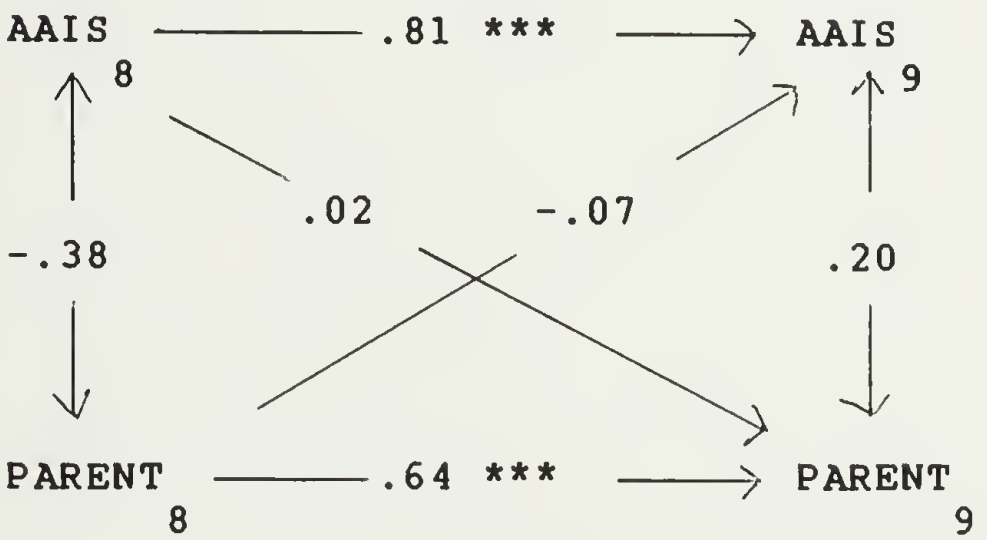
Significance Level: * = .05; ** = .01; *** = .001

Figure 4.22 Cross Lag Correlations from Grades 8 to 9 between AAIS Scores and SEI Peer Subscale Scores

Males, N=13



Females, N=23



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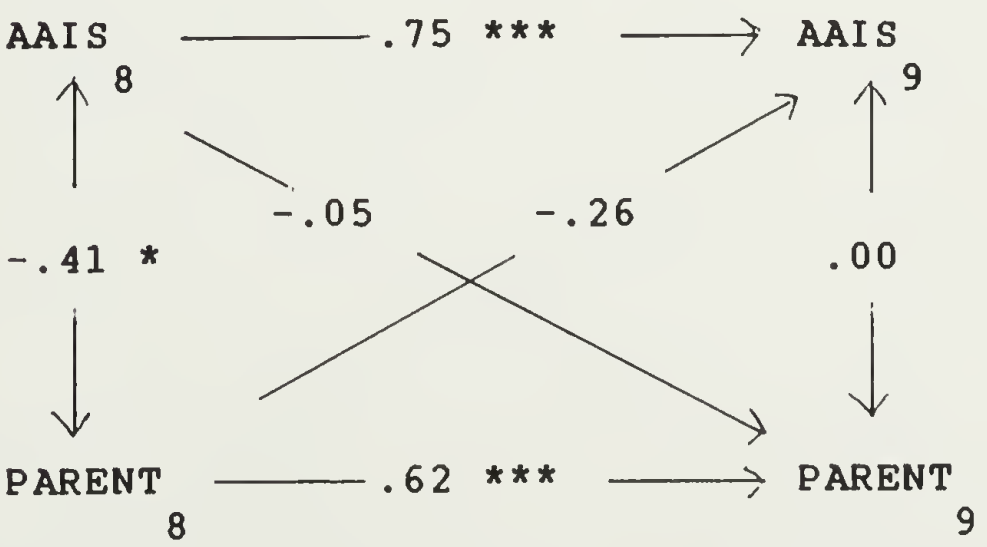
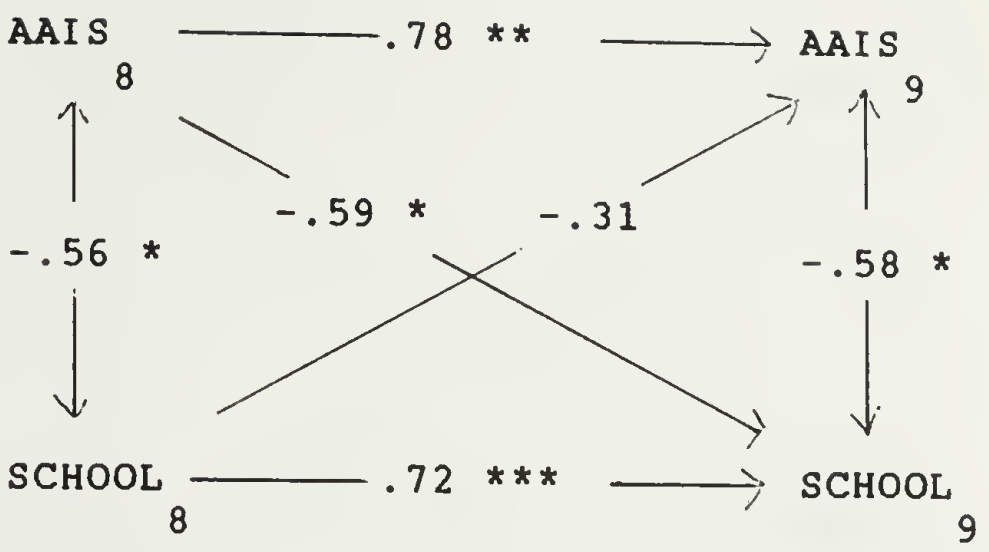


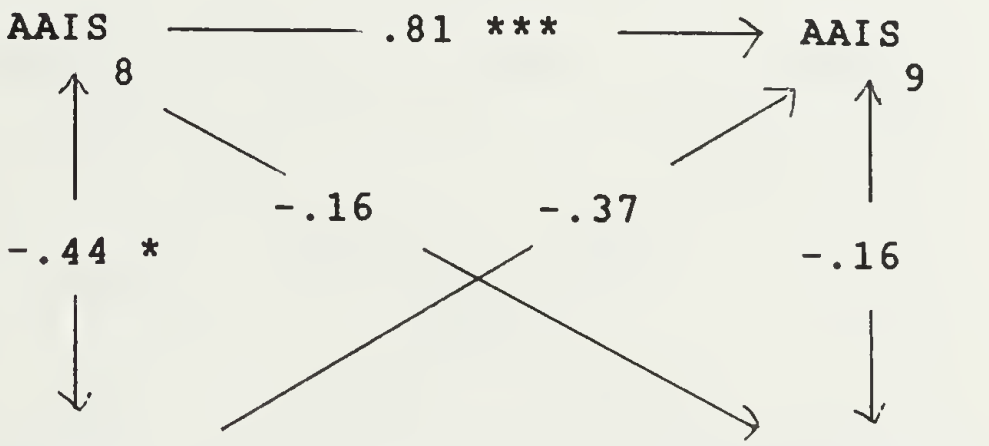
Significance Level: * = .05; ** = .01; *** = .001

Figure 4.23 Cross Lag Correlations from Grades 8 to 9 between AAIS Scores and SEI Parent Subscale scores

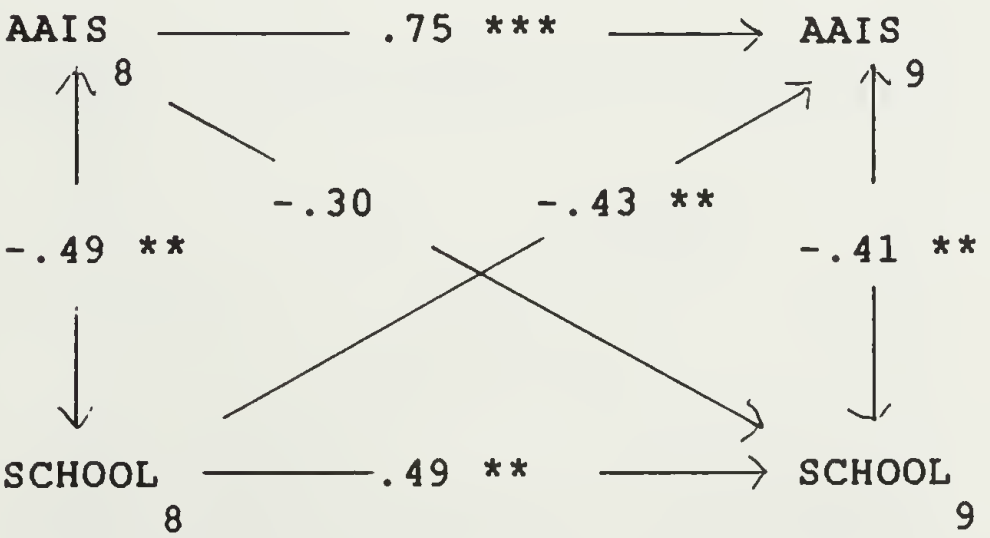
Males, N=13



Females, N=23



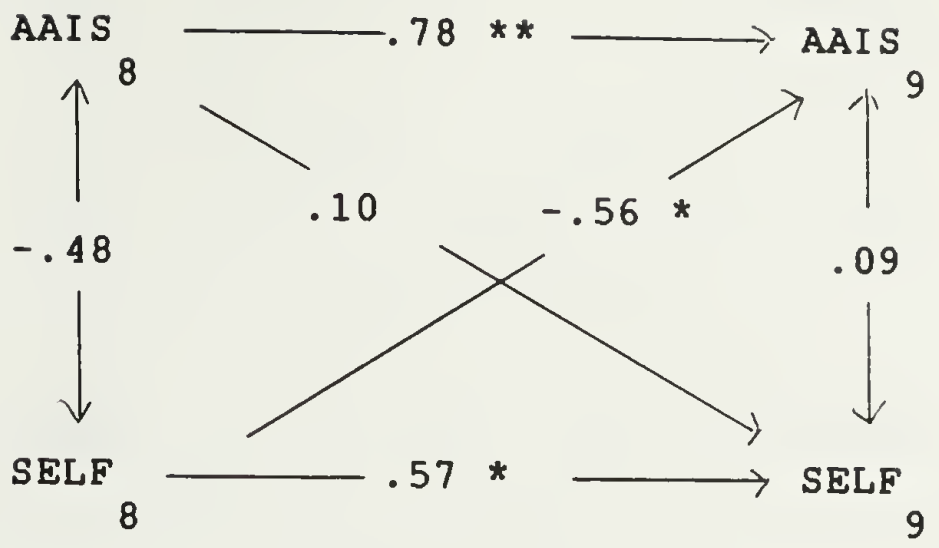
Total, N=36



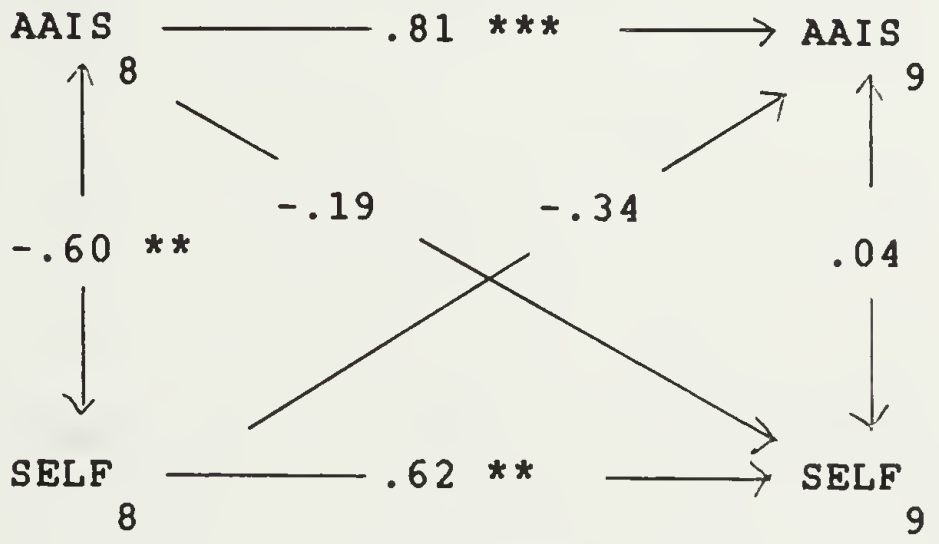
Significance Level: * = .05; ** = .01; *** = .001

Figure 4.24 Cross Lag Correlations from Grades 8 to 9 between AAIS Scores and SEI School Subscale Scores

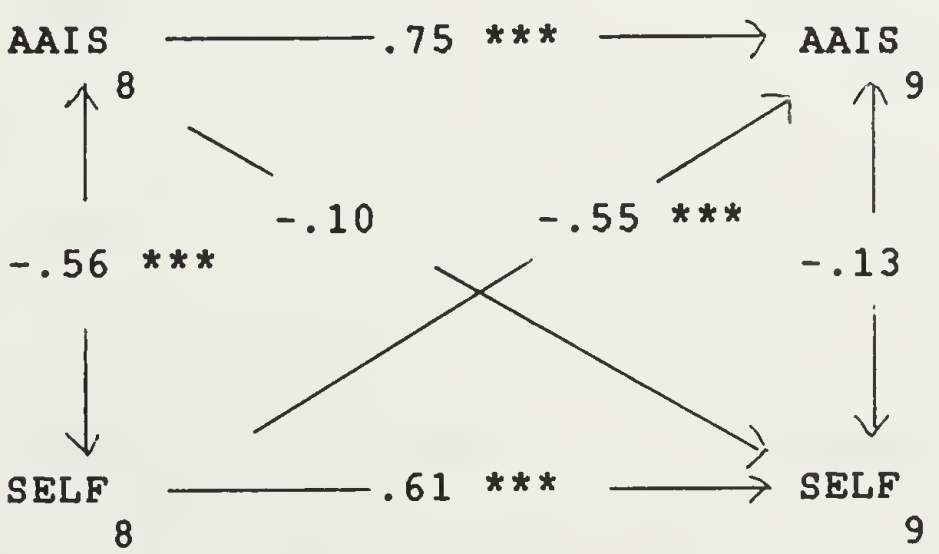
Males, N=13



Females, N=23



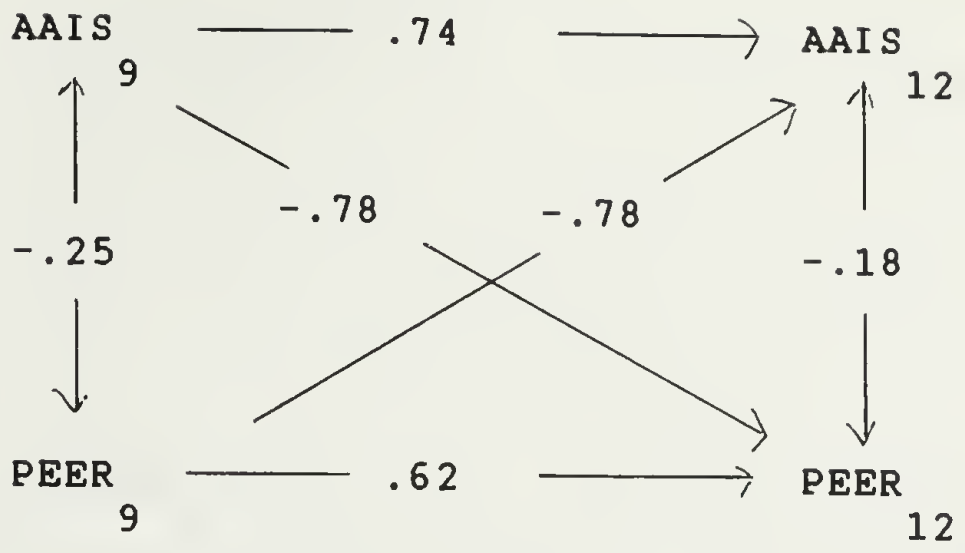
Total, N=36



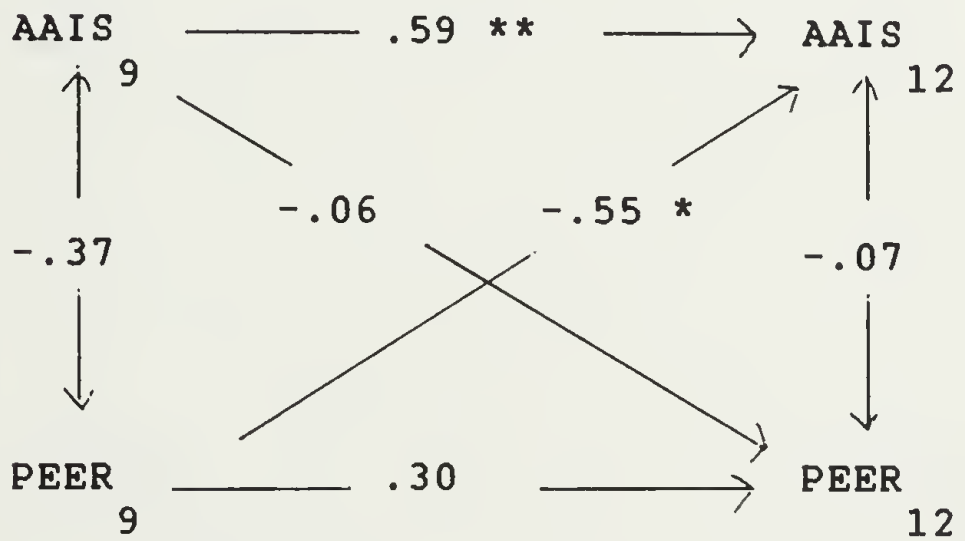
Significance Level: * = .05; ** = .01; *** = .001

Figure 4.25 Cross Lag Correlations from Grades 8 to 9 between AAIS Scores and SEI Self Subscale Scores

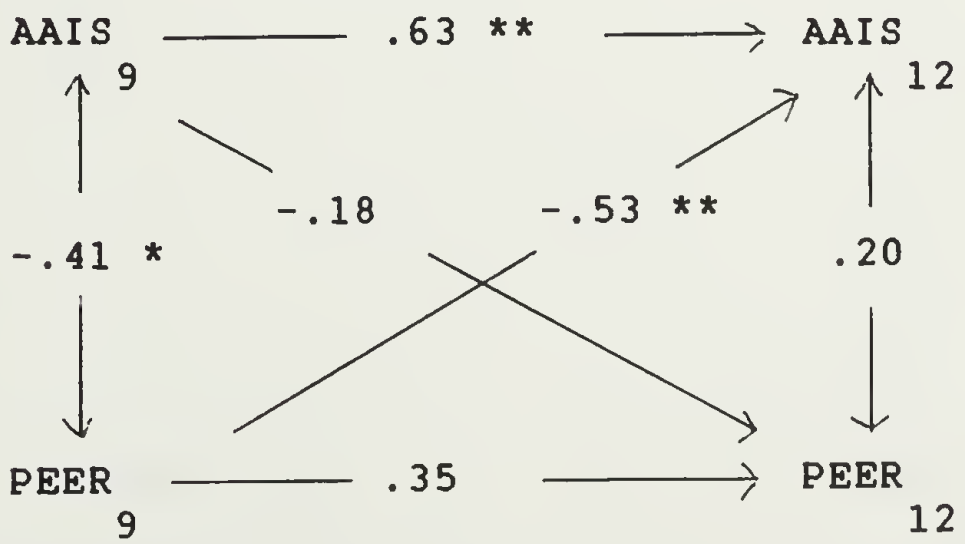
Males, N=6



Females, N=17



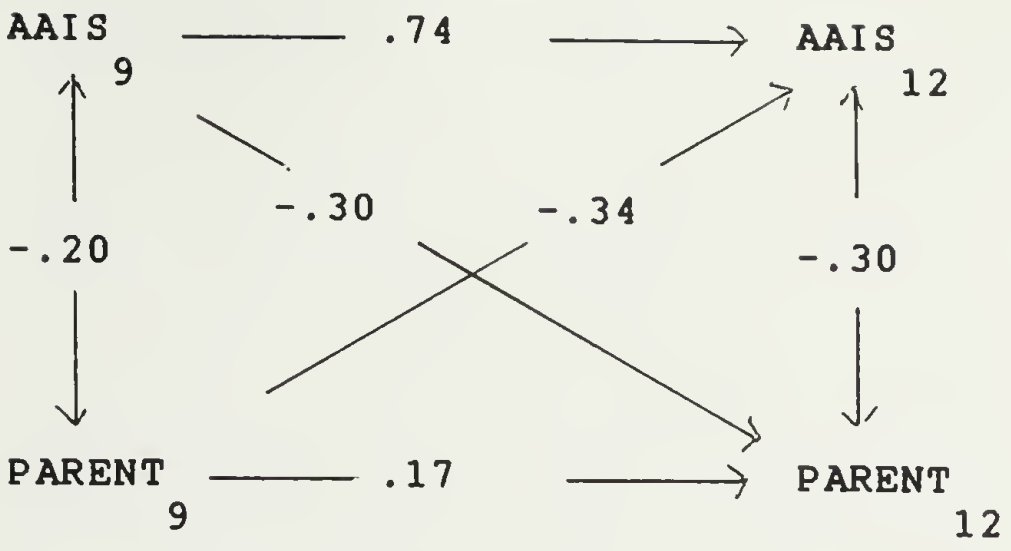
Total, N=23



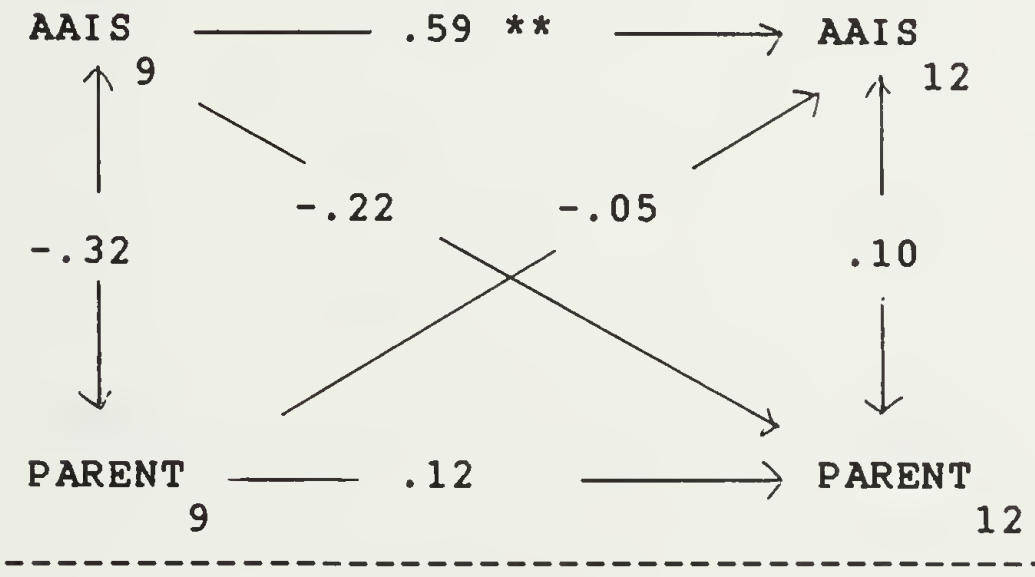
Significance Level: * = .05; ** = .01; *** = .001

Figure 4.26 Cross Lag Correlations from Grades 9 to 12 between AAIS Scores and SEI Peer Subscale Scores

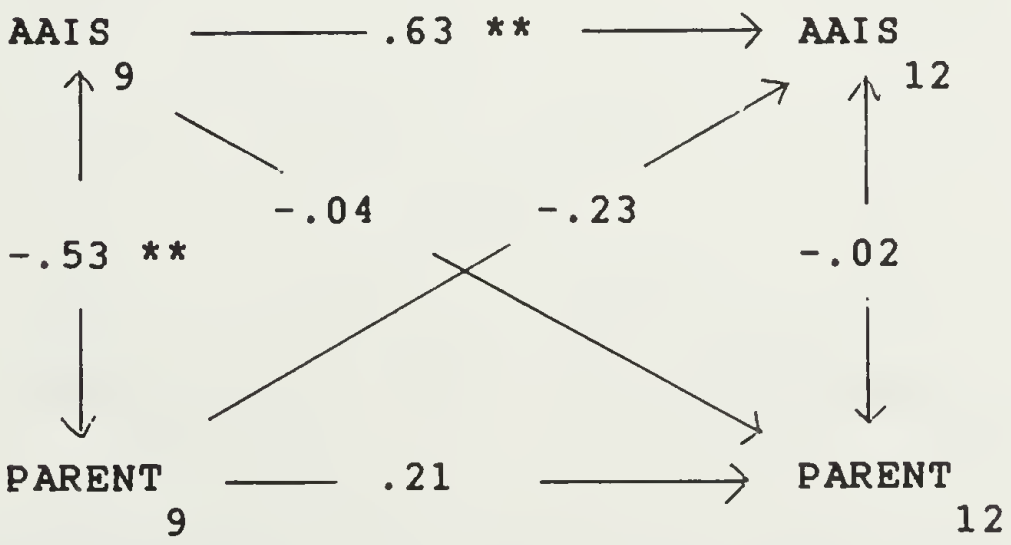
Males, N=6



Females, N=17



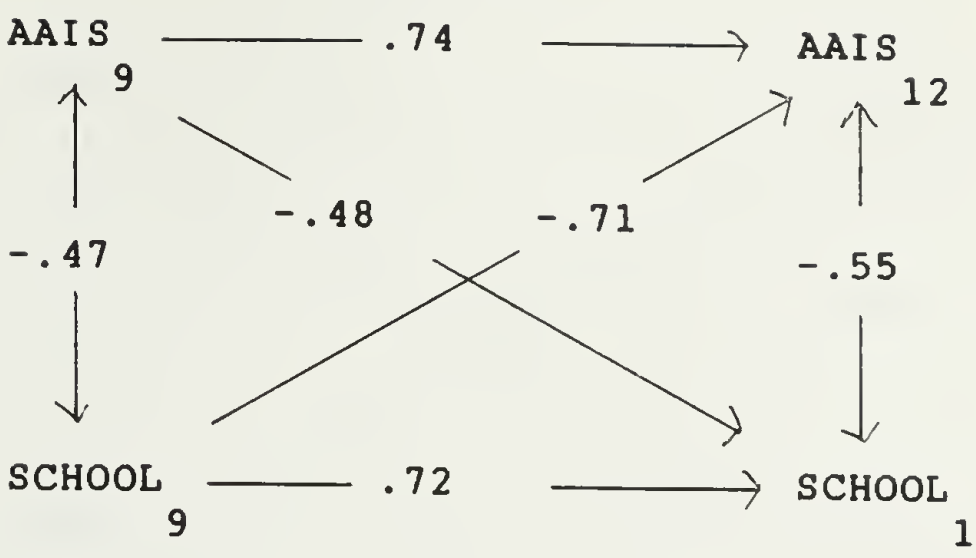
Total, N=23



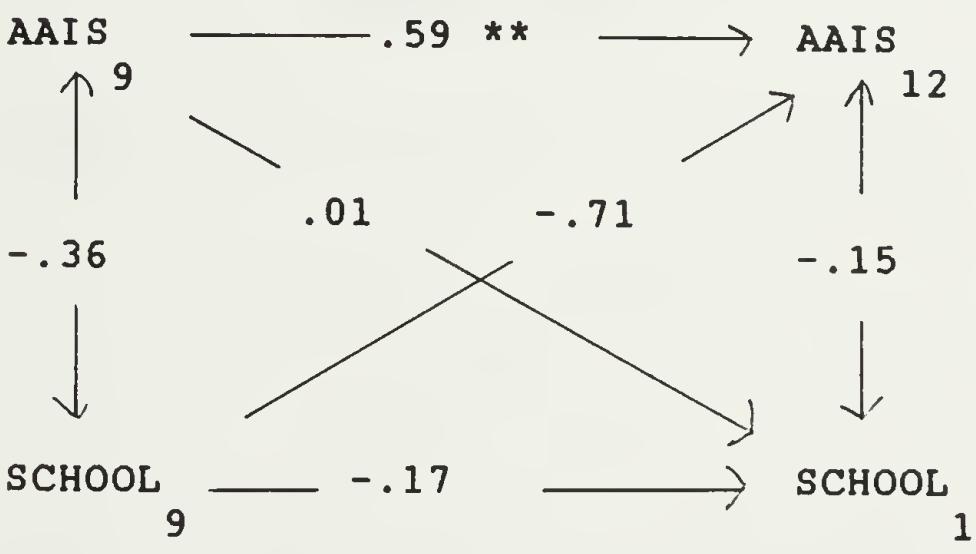
Significance Level: * = .05; ** = .01; *** = .001

Figure 4.27 Cross Lag Correlations from Grades 9 to 12 between AAIS Scores and SEI Parent Subscale Scores

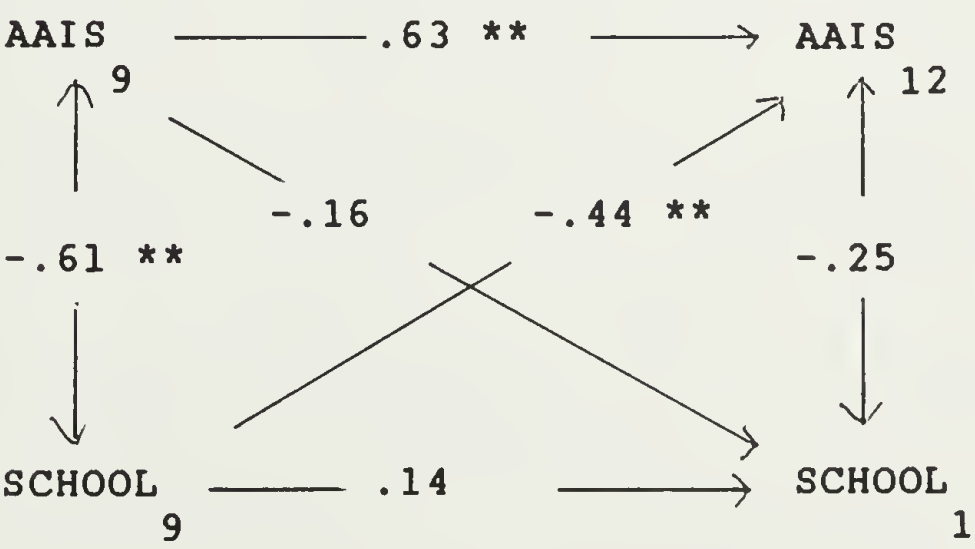
Males, N=6



Females, N=17



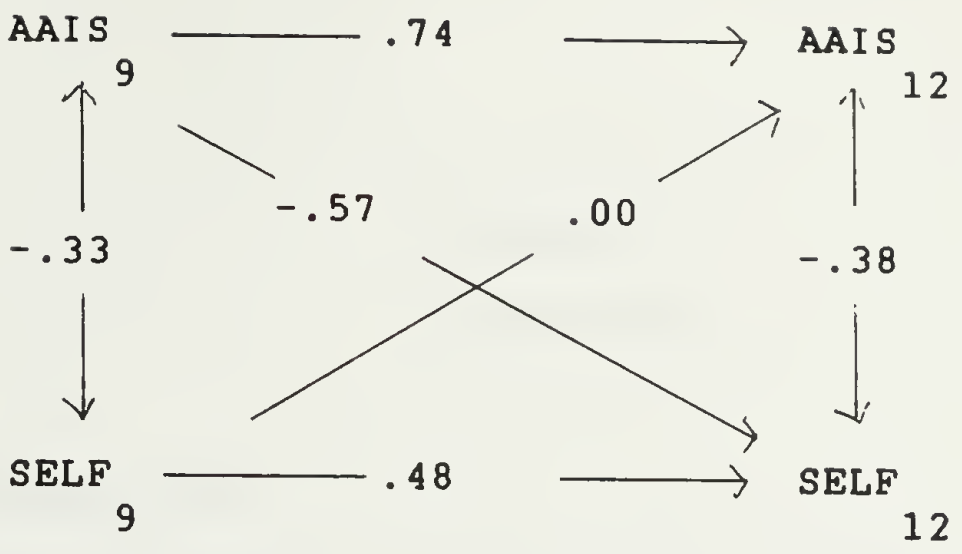
Total, N=23



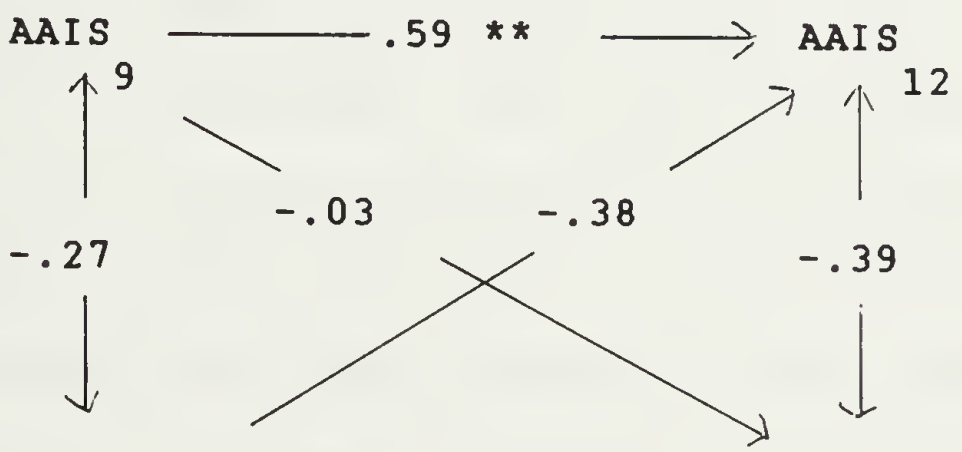
Significance Level: * = .05; ** = .01; *** = .001

Figure 4.28 Cross Lag Correlations from Grades 9 to 12 between AAIS Scores and SEI School Subscale Scores

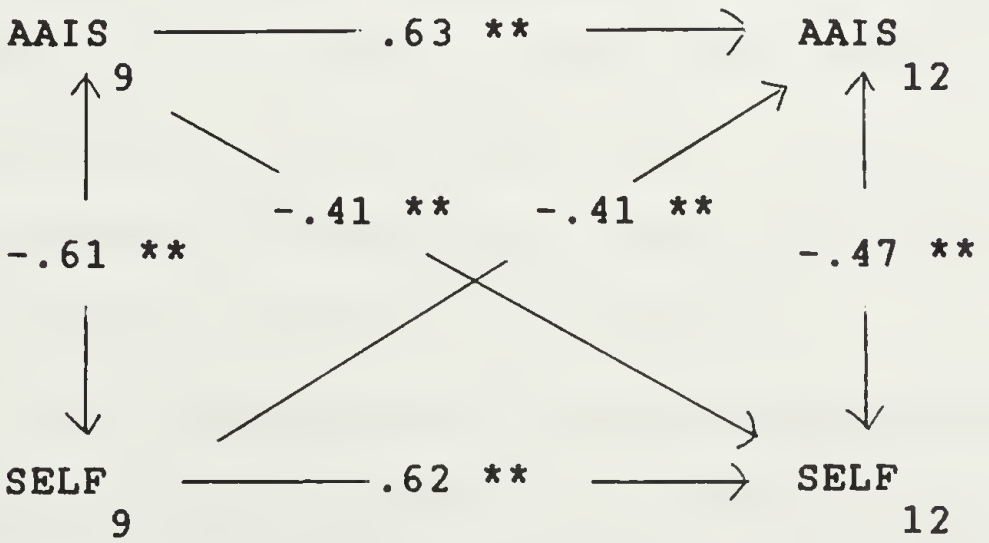
Males, N=6



Females, N=17



Total, N=23



Significance Level: * = .05; ** = .01; *** = .001

Figure 4.29 Cross Lag Correlations from Grades 9 to 12 between AAIS Scores and SEI Self Subscale Scores

CHAPTER 5

DISCUSSION

5.1 Introduction

The purpose of this study was to investigate the relationship between adolescent alcohol involvement and self-esteem. There were two questions that were to be addressed in this study. The first: Is there a statistically significant negative correlation between adolescent alcohol involvement and self-esteem? That is, do adolescents with high levels of alcohol use have lower levels of self-esteem and do those with low levels of alcohol use have higher self-esteem? The second: If a negative correlation is found in response to question 1, which of the variables were predictive of the other? Do adolescents with low self-esteem later become more involved with alcohol or does high levels of alcohol use precede lowered self-esteem? Does high self-esteem serve as a protection against alcohol abuse?

Data were gathered from the same group of students while they were in grades 7, 8, 9 and 12. The data were analyzed and correlation coefficients were calculated each year to determine if a relationship existed. The data

were then analyzed using a cross lag panel correlational method, looking at the correlations between the variables over time.

It was shown that increasing trends in both alcohol use and self-esteem occur over the time a student moves from grade 7 to grade 12. There were gender differences in both of these variables at different times throughout the study. Both the Adolescent Alcohol Involvement Scale scores and the Self-Esteem Inventory scores were fairly stable for the group from grade to grade, but over the span of the five years changed considerably.

The data presented in the preceding chapter indicate that there is a statistically significant negative correlation between adolescent alcohol use and self-esteem. Not only is there a significant negative relationship, but the data lead this researcher to suggest that low self-esteem in an earlier grade precedes and predicts high levels of alcohol involvement in a later grade. Simultaneously, high self-esteem in an earlier grade will precede and statistically predict low levels of alcohol use in a later grade.

An inductive analytical method was used to develop some general principles about those subjects with scores in the "outer" range of the two variables under consideration. In addition to the discussion of the meaning of the results, implications for the prevention and treatment of

substance abuse as well as recommendations for future research will be presented.

5.2 Alcohol Use and Gender Differences over Time

As was noted in Chapter Four, there was an increase in the use of alcohol from grades 7 to 12. In grade seven, 63.4% of the subjects were abstainers or rare drinkers, while 30.5% were classified as regular drinkers with no apparent problems and 6.1% reported their drinking in the category of alcohol abuse. By grade twelve, only 8.8% of the subjects reported never or rarely drinking, with 80.0% describing themselves as regular drinkers with no problems and 11.4% whose drinking is reported as alcohol abuse.

The trends observed in this study were fairly consistent with the national trends described by Johnston, O'Malley and Bachman (1987) in their research for The National Institute on Drug Abuse (NIDA). Their survey of 15,200 high school seniors indicates that 91.3% have used alcohol in the past, 84.5% have used it in the past year, 65.3% have used it in the past month and 4.8% are daily users of alcohol.

In the NIDA study there were small gender differences reported between males and females with regard to having used alcohol, use in the past year or in the past month with more males reporting use. This would correspond to the differences in the present study between males and females in the regular drinker category with a higher

percent of males reporting regular use than females except in grade 12. The major difference between the present research and the NIDA is in the gender differences in reports of heavy drinking by amount and frequency. In the national study, frequent use of alcohol tends to be predominately a male activity. In the present research the females in the sample represent a disproportional percent of the alcohol abusers in grades 7, 8 and 9. In grade 12 the comparison between males and females more closely matches the national sample.

What could account for the differences between the national sample suggesting males are more frequent heavy drinkers and this study where in the 7th, 8th and 9th grades the females represent most of the alcohol abusers? One possible answer might be the small sample size and the disproportionately smaller number of males compared to the proportion of males in the school. If there were an additional 22 male subjects, would there have been more males reporting alcohol abuse in grades 7, 8, and 9? Were the high risk males not present and therefore not in the study? Another factor that could have affected this outcome is the drop out or non-participation rate of the males in the study. If those males who did not participate in any year or who dropped out of the study had high rates of alcohol use, this would account for the higher rate of female alcohol abuse of the subjects in the study. Of the 12 males who reported regular alcohol use

in grade 7, 6 were drop outs from the study, 2 after grade 7, 1 after grade 8, and 3 after grade 9. It is very likely that these subjects progressed in their alcohol use to become alcohol abusers since their SEI scores before they dropped out were in the low range or the lower end of the medium range.

The other possibility exists that for the population represented by this sample, females do have a higher level of involvement with alcohol than the NIDA data suggest.

It should also be considered that while the AAIS was shown to have sufficient validity as a screening tool and for research purposes perhaps it might not possess enough sensitivity to discriminate between persons who report their alcohol use on the high end of the Regular Drinker category and are really alcohol abusers. For example, there were subjects who reported having negative consequences from drinking, but who also reported that they saw their drinking as no problem. The denial system of the alcohol abuser could have skewed the data somewhat.

5.3 Self-Esteem Reports and Gender Differences over Time

In Chapter 4 the trend of increasing SEI scores was reported for the whole sample as well as for males and females. However it was also noted that there were significant differences between males and females in grades 8, 9, and 12 with females having significantly lower levels of self-esteem than males in these grades.

It is only in grade 7 that the levels are comparable. Coopersmith (1981) reported increases in the mean self-esteem scores as students progressed to higher grades. However, in the studies he cited in reference to gender differences, it was concluded that there were no gender differences in SEI scores.

Coopersmith's (1981) conclusion is in contrast to other researchers' conclusions regarding gender differences. Byrne's (1987) research suggests that for most of the factors underlying the structure of the self-concept there were no significant differences between male and female adolescents, but that gender differences were found in the reliability of some of the scales with errors of measurement larger among males. Kokenes (1978) reported that at all grade levels, girls perceived themselves less favorably than did boys in the area of academic achievement. Cowan, Altman and Pysh (1978) suggest that at elementary school age females place more value on social conforming and social desirability factors. In light of Gilligan's (1983) work describing females as being more concerned with relationships than competition, this seems plausible.

Skaalvik (1986) reported significant age-grade interaction in gender differences in the measurement of self-esteem, both academically and globally. In grade 3 it was reported that girls had higher academic self-esteem than boys, but no differences in global self-esteem. In

grades 6 and 8 it was found that boys had higher measures of self-esteem in both areas.

Avasthi (1991) in an article in the Guidepost reported on a study conducted by the American Association of University Women. This study suggested that girls enter high school with lower expectations for the future and less confidence and faith in themselves than boys.

The results of this current study strongly suggest that females have significantly lower levels of self-esteem than males after grade 7.

It should be recalled that the while the reviewers of the SEI in the Ninth Mental Measurements Yearbook stated that they considered the SEI to have sufficient validity for research purposes it might not have a sufficient degree of sensitivity to screen gender differences accurately.

5.4 Interaction of Self-Esteem and Alcohol Use over Time

5.4.1 Introduction

As was noted in the preceding sections and observed in the data, there was an increasing trend in the self-reports of both alcohol use and self-esteem over time from grade 7 to grade 12. If one considers this in light of the conclusion that there was a negative correlation between alcohol use and self-esteem it seems to be paradoxical. If alcohol use is negatively correlated with self-esteem and one of the variables increases it would

seem that the other variable should decrease. But that does not happen here. This apparent contradiction might be countered by noting that the increasing trend is in the means of both variables and in the counts of subjects in successively higher rated categories. With 2 significant subgroups of the sample, the scores on the SEI and the AAIS vary inversely. These two groups were those with high SEI and low AAIS scores and those with low SEI and high AAIS scores. Hence the apparent contradiction is no contradiction at all. The meaning of the reported negative correlations at one time and over time will be discussed next.

5.4.2 Hypothesis One

From the results of testing hypothesis one, it was concluded that there was a statistically significant negative relationship between adolescent alcohol involvement and self-esteem. Referring to Table 4-13 in Chapter Four it was noted that this significant relationship was present between the AAIS scores and the total SEI scores and all the subscales with the exception of the Peer subscale at all grades except grade 12.

It is of interest to note that at no grade level were AAIS scores correlated significantly with the Peer SEI subscale scores. There were non-significant correlations of differing direction, eg. grade 8 males, $r = -.22$, for grade 12 males, $r = +.24$. It would seem that there

should be a significant correlation between Peer SEI and alcohol involvement when one considers the role of the peer influence on drinking. Jessor and Jessor (1977) cite the peer influence as one of the major concommitments and also antecedents of adolescent alcohol use. Oetting and Beauvais (1987) suggest in their presentation of their peer cluster theory that small cohesive subsets of the peer group that closely share attitudes, beliefs and values have a strong influence on whether an adolescent uses drugs or not. The study by Newcomb, Maddahian and Bentler (1986) listed peer use as the strongest factor in a list of ten factors. There is no contradiction here because the SEI taps the subjects' perceptions of self-esteem in relation to peers rather than the influence of peers on behavior.

Figure 5.1 on the next page illustrates one possible way that an adolescent's own use of alcohol and that adolescent's peer group's acceptance or non-acceptance of alcohol use interact to influence the correlation between adolescent alcohol use and self-esteem.

Quadrant I in this figure represents adolescents who rarely use or do not use alcohol and whose peer group are users. This group would likely present with low self-esteem on the Peer SEI subscale. Hence with low alcohol use and low Peer SEI there would be a positive correlation between the two variables in quadrant I. The teens in quadrant II would also likely have a positive correlation

PEER ATTITUDE TOWARD USE	OWN USE: RARE/NON-USE	OWN USE: USE
ACCEPT USE	I r = +	II r = +
DO NOT ACCEPT USE	III r = -	IV r = -

Figure 5.1 Influence on Correlations of The Interaction between Adolescent Use of Alcohol and Peer Group Acceptance of Use of Alcohol

between AAIS and Peer SEI. They would score high on the AAIS and high on the Peer SEI subscale. The group in quadrant III would have low AAIS scores and high Peer SEI scores and therefore a negative correlation between these variables would emerge. The group in quadrant IV would also represent a negative correlation with high alcohol use and low Peer SEI scores.

When the groups in these four quadrants are combined the resulting aggragate correlation would be near or equal to zero with the various groups cancelling the effects of each other out.

In grade 12 there were no statistical differences reported between the AAIS scores and the SEI total scores or any of the subscale scores. By grade twelve, the vast majority (80%) of the subjects were classified as

regular drinkers with no apparent problems. With this clustering of subjects within this narrow range it would be difficult to obtain a significant correlation. In the subgroup of males in the twelfth grade there is a correlation reported of -.46 between AAIS scores and SEI total scores. This is a moderate coefficient, but the small number in this subgroup prevents the t-value from being significant.

Having established that at any one time there was a significant correlation between AAIS scores and SEI scores, particularly the SEI subscale scores of Parent, School and Self, attention will now be directed to this relationship over time. In a later section of this report, implications for prevention and treatment of substance abuse will be discussed with the above conclusions in mind.

5.4.3 Hypothesis Two

In order to determine how alcohol involvement and self-esteem interact over time, cross lag panel correlations were calculated between these two variables over each pair of grades in the study. It was demonstrated that from grades 7 to 8, 7 to 9, 7 to 12 and 8 to 12 there were no statistically significant correlations between the AAIS scores in an earlier grade and SEI scores in a later grade. It was also shown that there were no significant correlations between the SEI

scores in an earlier grade and the AAIS scores at a later time for these same pairs of grades.

However, from grade 8 to grade 9 and from grade 9 to grade 12 for the total sample in each group, statistically significant negative correlations -.51 and -.51 were reported between the grade 8 SEI scores and the grade 9 AAIS scores and the grade 9 SEI scores and the grade 12 AAIS scores respectively. In addition, for the females in the grade 9 to grade 12 group, a significant correlation of -.49 was reported.

For the pairs of years where calculation of the cross lag correlations yielded significant results, specifically from grades 8 to 9 and 9 to 12, cross lag correlations between the AAIS scores and the SEI subscale scores were calculated. From grade 8 to grade 9 statistically significant correlations of -.43 and -.55 were found between the School and Self subscales respectively in grade 8 and the AAIS scores in grade 9. This implies that low self-esteem in the school arena in grade 8 predicts high levels of alcohol use in grade 9. One also may conclude that a high level of self-esteem in relation to school would serve as a form of protection against high levels of alcohol use in grade 9. The same conclusion may be reached in regard to the Self subscale of the SEI. That is, low scores on the Self subscale in grade 8 predict high alcohol scores in grade 9 while high Self

subscale scores predict low alcohol use scores for those same grades.

From grade 9 to grade 12, significant negative correlations of -.53 and -.44 were found between the Peer and School subscales respectively in grade 9 and the AAIS scores in grade 12. Low self-esteem in relation to both the peer group and school is a predictor of a high level of alcohol use while high self-esteem in either or both of these areas could possibly protect an adolescent from harmful involvement with alcohol.

The one cross lag which suggested that high alcohol use in one grade was predictive of lowered self-esteem on a subscale in a later grade was for males in the 8th grade. Between the AAIS scores for 8th grade males and their School SEI subscale there was a significant correlation of -.59. This would suggest that for 8th grade boys, high alcohol use was an antecedent of low self-esteem in the 9th grade.

5.4.4 Causality or Precedence

The conclusion arrived at after testing the second hypothesis was that low levels of self-esteem preceded increased levels of alcohol. Conversely, high levels of self-esteem preceded lower levels of alcohol involvement. This does not establish causation, only precedence in time.

Both Bauman (1986) and Denzin (1980) in their discussions of causal modeling cite three criterea necessary in order to establish causality between two variables. These are: 1) The establishment of a significant relationship between the two variables; 2) The antecedence in time of one variable before the other; and 3) The establishment of non-spuriousness - that is the relationship is not due to the influence of some other variable or variables that are impacting on the two variables under consideration.

Applying these criteria to the results obtained in this study, one may conclude that the first two have been met, but the third has not been established. It appears that for certain age groups, adolescent alcohol involvement is significantly negatively correlated to self-esteem and that variations in self-esteem precede and statistically predict variations in alcohol involvement.

5.5 Inductive Analysis with Subjects Whose SEI Scores in Grade 7 Were Classified As Low

There were 23 subjects, 7 males and 16 females who had low self-esteem scores in grade 7. Table 5.1 on the next page shows the AAIS and SEI scores of these subjects over time, as well as whether they were present or not when the data were collected at subsequent times. Of these 23 subjects, 6 (1 male, 5 females) did not participate at all after grade 7. They either had left school or were absent on the days the data were collected

Table 5.1 AAIS and SEI Scores over Time of Subjects with Low SEI Scores in Grade 7

Subject	Grade 7		Grade 8		Grade 9		Grade 12	
	AAIS	SEI	AAIS	SEI	AAIS	SEI	AAIS	SEI
1. M 5	37	42	38	46	41	76	--	--
2. M 9	0	30	0	70	0	28	--	--
3. M 15	31	48	27	62	--	--	40	90
4. M 16	26	44	29	56	29	48	--	--
5. M 18	15	40	23	48	--	--	42	68
6. M 26	2	46	34	68	15	58	--	--
7. M 30	0	48	--	--	--	--	--	--
8. F 4	26	46	26	68	39	52	--	--
9. F 6	54	38	50	44	36	70	--	--
10. F 16	42	34	--	--	--	--	--	--
11. F 17	22	48	24	70	26	66	18	60
12. F 18	28	40	--	--	--	--	--	--
13. F 20	12	42	0	26	--	--	0	58
14. F 21	20	44	--	--	31	32	--	--
15. F 23	38	44	36	66	35	88	--	--
16. F 33	13	48	17	50	36	52	29	74
17. F 35	0	18	--	--	--	--	--	--
18. F 37	22	48	34	72	--	--	--	--
19. F 41	41	32	--	--	--	--	--	--
20. F 44	0	44	0	56	0	50	--	--
21. F 46	0	36	39	60	42	68	40	62
22. F 47	47	22	47	26	56	44	36	80
23. F 51	42	34	--	--	--	--	--	--

M = Male, F = Female

in grades 8, 9 and 12. Sixteen of the 23 were not present on the day the data were gathered in grade 12.

All 5 subjects in grade 7 who reported alcohol abuse came from this group of 23 with reports of low self-esteem in grade 7. In 8th grade, 2 of the 7 alcohol abusers came from this original group and in 9th grade, 2 of the 11 alcohol abusers had low self-esteem scores in grade 7. Only 6 of these 23 subjects were present in grade 12 when the data were gathered and none of the 6 reported alcohol abuse.

There were 7 of the 23 subjects who in years subsequent to grade 7 whose Self-Esteem Inventory scores increased after or simultaneously to reporting an increase in their alcohol use. It seemed that for these subjects, an increase in alcohol use preceded or paralleled an increase in their sense of self-esteem. This observation is consistent with the study reported by Kaplan (1977) which suggested that lowered self-esteem preceded alcohol use, followed by an increase in self-esteem. Kaplan (1977) stated that this increase in self-esteem was a temporary phenomonem.

5.6 Inductive Analysis with Subjects Whose SEI Scores in Grade 7 Were Classified As High

There were 9 subjects in grade 7 who had self-esteem scores in the high range. The AAIS and SEI scores of these 9 subjects in grades 7, 8, 9 and 12 are displayed in Table 5.2 on the next page.

Of these 9, none completely dropped out or failed to participate in the study after grade 7. Only 3 were not present when data were collected in grade 12. None of these 9 reported alcohol abuse in the 7th grade. Three of the 9 subjects reported alcohol abuse at a subsequent time in the study. One of these three, subject M 27 reported only a slight decline in his SEI score when his alcohol score increased to the abuse level. The second, subject F 26, reported a marked decline from high self-esteem to low self-esteem as her alcohol use increased to the abuse level, but then in the next year her report of self-esteem increased to a medium level even

Table 5.2 AAIS and SEI Scores over Time of Subjects with High SEI Scores in Grade 7

Subject	Grade 7		Grade 8		Grade 9		Grade 12	
	AAIS	SEI	AAIS	SEI	AAIS	SEI	AAIS	SEI
1. M 11	22	88	17	94	15	92	21	92
2. M 21	16	98	22	86	--	--	24	94
3. M 22	0	98	0	100	--	--	30	98
4. M 27	25	86	--	--	--	--	47	82
5. F 24	0	100	0	98	--	--	--	--
6. F 26	26	94	46	46	50	80	--	--
7. F 19	19	96	24	98	47	88	--	--
8. F 40	15	94	--	--	--	--	35	90
9. F 43	0	88	20	86	33	74	21	96

M = Males, F = Females

though her alcohol use climbed higher. The third, subject F 19, experienced only a slight decrease in self-esteem, still reporting a score in the high SEI category after the increase to alcohol abuse. This data suggest that high levels of self-esteem will tend to provide some degree of protection to some students from getting involved heavily with alcohol as well as some degree of protection from dropping out or being excessively absent from school.

5.7 Conclusion to Inductive Analysis

From this brief inductive analysis of the data from subjects reporting initial low or high levels of self-esteem, it appears that students with low levels of self-esteem were at greater risk to either drop out of school or be absent frequently; were at higher risk to use alcohol in an abusive manner. It appears that high levels of self-esteem are at least a partial protection from harmful involvement with alcohol.

5.8 Implications for Prevention

From the results of this study and from the research reported in the literature it has been demonstrated that low self-esteem is a correlate of alcohol abuse. In addition, the results of this study have demonstrated that low self-esteem frequently (grades 8 to 9, and 9 to 12) but not always, precedes and statistically predicts alcohol abuse.

There is also evidence from this study and from the literature to suggest that high self-esteem can be a factor in protecting children from using drugs or alcohol and that a perception of negative self-esteem might lower children's resistance to using alcohol or drugs (Segal, 1975; Norem- Hebeisen, 1975; NCAI, 1983).

From the results of the study reported here it was demonstrated that self-esteem, particularly in the area of parents, school and self as measured by those subscales of the Coopersmith Self-Esteem Inventory are significantly negatively correlated with self-esteem. Self-esteem in relation to peers was not shown to be correlated with alcohol use. However it was hypothesized that in spite of no significant correlation between alcohol use and the peer subscale on the SEI the peer influence was important. Figure 5.1 on page 126 illustrated that in spite of no significant correlation between the AAIS scores and the Peer SEI subscale scores the influence of peers in alcohol use was still significant.

It was also demonstrated that where low self-esteem was predictive of high levels of alcohol use and where high self-esteem preceded and predicted low levels of alcohol use the peer, school and self components of self-esteem as measured by the SEI were the salient factors. In addressing prevention of substance abuse it is therefore necessary to consider each of the aspects of self-esteem contained in the Coopersmith model.

5.8.1 Implication Related to Parent Factor

There are numerous ways that parents are influential in the prevention of substance abuse with their children. Perhaps the most influential is their own use of substances such as alcohol and tobacco. This present paper does not address this issue since it has been researched in detail elsewhere. The issue which is addressed here is the role of parents in assisting in the prevention of substance abuse through the building of self-esteem in their children.

Coopersmith (1967) stated that the three most important factors that parents provided in the development of self-esteem in their children were warmth, limits and respect. His research suggested that children who perceived these characteristics or behaviors in their parents developed high self-esteem. The issues tapped by the Coopersmith SEI Parent subscale items will be presented and discussed later in relation to their preventative power.

From the results of the present study it was demonstrated that there was a significant negative correlation between alcohol use and self-esteem in relation to parents for females in grade 7, males in grade 8, the total sample in both grades 7 and 8 and for females and the total sample in the aggregate correlation of all four grades. Therefore raising self-esteem of adolescents in relation to their parents would very likely have an

effect of lowering the level of alcohol abuse for these adolescents.

Additional research by Streit (1974, 1978) suggest preventative strategies that parents might apply based upon factors very similar to those mentioned by Coopersmith (1967). Streit's study had a sample of 1050 secondary school students from three differing socioeconomic school districts. He developed an instrument called the Youth Perception Inventory to assess children's perceptions of their homes. His research suggested that one of the most accurate predictors of a child's involvement with alcohol or other drugs was that child's perception of home. Children who perceive their homes as loving were much less likely to become involved in alcohol or drug abuse than children who perceived their homes as not loving places. Streit described the children's perceptions of home as ranging from homes having complete freedom without love, freedom with love, love, love with control, control without love, control with hostility, hostility, or hostility with freedom. Several of the items of the Coopersmith SEI Parent subscale would provide information that would be similar to Streit's Youth Perception Inventory. The items in the SEI Parent subscale are: "My parents and I have a lot of fun together; "I get easily upset at home"; "My parents usually consider my feelings"; "No one pays much attention to me at home"; "My parents expect too much of me; "There are many times I'd like to

run away"; "My parents understand me"; and "I usually feel as if my parents are pushing me".

From these items one could infer whether a child had a perception of love regarding the home. Thus if a child scored low on the SEI Parent subscale one might infer that the child did not perceive home as a loving place. The data in this present study suggested that there was a moderately strong correlation between the SEI Parent subscale and alcohol use. Those subjects with low self-esteem on the Parent subscale had high levels of alcohol use. It is very likely that those same subjects would also not perceive their homes as loving places.

As discussed earlier, in his seminal work on self-esteem Coopersmith (1967) described what he had determined to be the key antecedents of self-esteem. These are: parental warmth, respect by parents, and clear limits set by parents. One can associate Streit's concept of youth perception of home as a predictor of both substance abuse and levels of self-esteem. A child who experiences warmth, respect and clearly defined limits by parents is very likely to have a sense of high self-esteem. A child who experiences warmth, respect, and clearly defined limits by parents will most likely perceive that the home is a loving place and be very unlikely to abuse alcohol or other substances. Subjects who scored high on the Parent SEI subscale would likely have responded in the affirmative to statements such as "My parents understand me" or "My

parents are usually considerate of my feelings" and in the negative to statements such as "No one pays much attention to me at home", "My parents expect too much of me", or "I usually feel as if my parents are pushing me". Subjects who responded in such a manner would be likely to perceive that the home was a loving place with clear limits and reasonable expectations.

In agreement with Streit, several other researchers also cited the family as the primary focus for substance abuse prevention. Brook et al (1986) in a study of 356 mothers and their adolescent children aged thirteen to eighteen reported that adolescents who had a strong mutual attachment with their mothers had much lower levels of substance abuse. Subjects scoring high on the Parent SEI subscale would very likely have such a strong attachment with their mother.

Since the data suggested there was a strong negative correlation between adolescent alcohol abuse and self-esteem on the Parent SEI subscale and the literature concurs with this finding, more efforts to include parents and families in prevention must be found.

5.8.2 Implications Related to The School Factor

The data from the present study indicate that the self-esteem of adolescents in relation to school was both a correlate of present and a predictor of future level of alcohol use. Examination of the items from the SEI School

subscale might shed some light on areas to address the raising of self-esteem within the arena of the school.

The School subscale contained the following items. "I find it very hard to talk in front of class." " I'm proud of my school work." "I'm doing the best work that I can." "I like to be called on in class." "I'm not doing as well in school as I'd like to." "I often feel upset in school." "My teacher makes me feel I'm not good enough." "I often get discouraged in school."

The current school reform movement with its emphasis on increasing expectations and success of all students will if it is successful have as a by product the reduction of alcohol use among students. Increasing teacher expectations of all students will have the likely effect of students "feeling they are good enough". The effect of higher teacher expectations upon achievement has been reported in the literature (Good and Brophy, 1970; Rosenthal and Jacobsen, 1968). The higher achievement gained by students held to higher expectations might have the added effect of allowing students to then respond to such statements as "I'm proud of my school work." in the affirmative.

Another avenue of prevention that is being explored are programs that have as their theme "Just say no". There is impirical evidence and a growing body of literature that supports this as a prevention strategy that has potential. This strategy, which is actually an application of

assertiveness training for children, focuses on teaching the skills necessary to withstand peer pressure to use alcohol, drugs or tobacco. It was pioneered with much success by the American Lung Association as a preventative strategy against smoking by children and adolescents. Programs of this nature must be started early, before junior high to be successful. From the data in this study it is noted that by 7th grade 30.5% of the subjects are regular drinkers and 6.1% are alcohol abusers. It is the consensus of most health educators and prevention specialists that 5th grade is the optimum grade to start such programs. In addition to learning skills to refuse alcohol and other drugs it is very likely that students who participate in such programs will gain confidence and increase their self-esteem. Items such as "I can make up my mind without too much trouble."; "I give in very easily"; "I can make up my mind and stick to it." or "If I have something to say I usually say it." on the Self SEI subscale that would be directly impacted by assertiveness training.

Coopersmith (1981) listed and briefly described a number of other specific techniques which he recommended be used for building self-esteem in the classroom. These suggestions were: "Accept feelings as real and support their expression; Realize individual differences in coping; Avoid sudden drastic changes; Provide a model of effectivenees; Help children develop constructive ways of

dealing with difficulty; Maintain self-respect while increasing coping strengths; and Promote parent education and cooperation in developing coping strengths".

Because children spend a major proportion of their time in schools and because school personal are probably the second most important influence in the lives of children until they reach early adolescence, it is logical and effective for schools to play a major role in substance abuse prevention through self-esteem building.

5.8.3 Implications Related to The Peer And The Self Factors

Since the peer group is so tightly connected to the development of the self in adolescence, the two areas of the SEI measured by the Peer and Self subscales will be addressed together.

Several researchers focused on developmental issues of adolescents. Perry and Murray (1986) noted that focus on the developmental tasks of adolescents and assisting adolescents in the accomplishment of these tasks might be a fruitful avenue to pursue for both the prevention of and early intervention with substance abuse.

Several generally accepted tasks of adolescence that counselors and educators might address to assist students to build self-esteem would be to become knowledgeable about and comfortable with the biological changes of adolescence; to learn to relate to both same and opposite

sex peers in new ways as they enter adolescence; to explore independence and autonomy issues; to explore and examine male and female role development as part of identity development; and to make progress in career exploration and self examination in the realm of interests and aptitudes.

Appleby (1981) described what were called requisites or needs of adolescents to develop a concept of spirituality which was postulated to be a preventative factor in substance abuse. These needs include: 1) feelings of personal significance; 2) acceptance outside the home and family; 3) dexterity, skill, and courage; 4) feeling free or autonomous; 5) and developing ability to resist advertising. Thorsen's (1983) research suggests similar needs and discusses the high risk for substance abuse of teens who have insufficient resources to meet these demands or needs.

Some of the items on the Peer and Self subscales such as "I often wish I were someone else."; "I'm popular with kids my own age."; "I can usually take care of myself." seem to assess these needs and suggest avenues that educators and counselors might begin to explore in order to help students build self-esteem.

Addressing these developmental needs would provide preventative protection from substance abuse by enhancing the self-esteem of adolescents in the areas of peers relations, school and self.

Self-esteem is tied to success according to Jonah (1986). Jonah (1986) cites success in risk taking as a means adolescents use to enhance self-esteem. This information might be used in preventing substance abuse. Perhaps children and adolescents can be assisted in taking chances that are risky, but not of the level of risk involved with substance abuse. Success in this area would then enhance self-esteem in the area of self and peers which has been shown in the present study to predict levels of alcohol use.

The result from the present study which suggested that self-esteem as measured by the SEI self subscale is a predictor of alcohol use is also supported by other research. Bentler (1987), in his study of 700 adolescents demonstrated that a high level of self-acceptance acts as an inoculation against substance abuse. The previously cited work of Chassin et al (1985) which suggested that the closer an adolescent's image of self was to that of a drinker, the more likely one would become a drinker, points in the direction of another preventative strategy. If adolescents can be assisted to develop or change their social images away from those of drinkers perhaps the number of teens becoming heavily involved with alcohol will diminish. Some type of cognitive restructuring following Ellis (1961, 1969) principles of RET might prove fruitful.

Since self-esteem in the area of peers was a predictor of the level of alcohol use then assisting adolescents to change their image to that of a non-drinker, before they begin drinking would raise their self-esteem if they stayed non-drinkers. Since the majority of the subjects in this study and in the NIDA survey are at least regular drinkers by the time they are in 12th grade this might be an unrealistic goal.

Fraser (1984) in a meta-analysis of correlates of adolescent drug abuse, indicated several areas to pursue for prevention and early intervention strategies. These areas are: addressing family normlessness, attachment and discipline; parental drug use; involvement with drug using peers; educational achievement and expectations; and early childhood skills for learning.

In conclusion to this section on implications for prevention of substance abuse it would behoove us to keep in mind that there are a number of risk factors for adolescent substance abuse of which self-esteem is only one. Recall the risk factors cited by Newcomb et al (1986) and Bry et al (1982): low grade point average; lack of religiosity; early alcohol use; low self-esteem; psychopathology; poor relationships with parents; lack of social conformance (or deviance); sensation seeking; perceived peer drug use; and perceived parent drug use.

One result of this study appeared to be contradictory to the general conclusion that low self-esteem preceded

alcohol abuse. For males in 8th grade a high level of alcohol use preceded a lowering of self-esteem in relation to school in the 9th grade and a low level of alcohol use preceded high self-esteem. Perhaps for males of this age the pressure from sources other than self-esteem influences them to use alcohol. Perhaps this is the group of alcohol abusers to which Vaillant (1983) is referring when he concludes that no premorbid variables are antecedent to alcohol abuse, but that alcohol abuse is the precedent to psychological difficulties.

With the lone exception noted above, the data from the present study support previous research that low self-esteem is both a correlate and statistical predictor of high levels of alcohol use. In addition to this it should be noted that other corrleates of alcohol abuse that have been cited are also antecedents of low self-esteem. It appears that neither a family nor a school nor in individual approach alone can be effective in prevention of substance abuse in adolescents.

5.9 Implications for Treatment

As Vaillant (1983) states, if alcoholics are to recover, they must discover new sources of self-esteem. Alcoholics Anonymous (A.A.) can be such a source of hope and self-esteem for many. Clinical report and anecdotal evidence of A.A. members strongly suggest that one of the inevitable consequences of following such a program as

A.A. is the enhancement of the self-esteem of the individual and also a reduction of anxiety in the individual. This reduction of anxiety will bring about further increase in self-esteem. This enhancement of self-esteem and reduction of anxiety will develop as a result of several factors inherent in the structure and rituals of A.A.. Testing this by means of empirical research with both adults and adolescents would greatly add to the knowledge base of addictions treatment.

These factors as described by Frank (1961) and cited in Vaillant (1983) include the unconditional acceptance that takes place in A.A., the use of a shared ritual, and a shared belief system. The recovering alcoholic has the opportunity to assist another person and feels that she/he can do something for others. This feeling of doing for others will help raise self-esteem and at the same time divert the alcoholic from a morbid preoccupation with self.

Vaillant (1983) suggests that for treatment of an alcoholic to be successful a number of issues must be addressed, among them the restoration of self-esteem. He also recommends A. A. as a recovery program that can help build self-esteem by affording alcoholics the opportunity to help others.

Twerski's (1987) recommendations for treatment and the importance of self-esteem variables are very similar to Vaillant's. He says that in order to recover, the

addicts or alcoholics must develop relationships with therapists and/or others that are producing of honest and open communication which will allow for genuine feedback about themselves which is necessary to build self-esteem.

The data from the present study indicate that self-esteem in relation to significant others, that is parents, school personnel and the self are correlates of alcohol use. The data also suggest that self-esteem in regard to peers, school and self are predictors of alcohol abuse. From these results one may conclude that the recommendations of Vaillant (1981), Frank (1961) and Twerski (1987) are valid for teens. It can be concluded that in order for treatment to be successful, self-esteem must be increased.

The above authors were writing about recovery from an adult perspective. The enhancement of self-esteem is apparently as essential to recovery for adolescents as for adults. From the data in the study it was concluded that negative self-esteem in relation to peers was an antecedent of alcohol abuse. It was also theorized that even though peer self-esteem was not a correlate of alcohol use in this study it was a critical factor. For adolescents in recovery from alcohol abuse or alcoholism increase in self-esteem is necessary. One of the ways that this increase in self-esteem might come about would be to have a new peer group with a similar attitude toward abstaining from alcohol. With this similar attitude

toward drinking there would be a corresponding increase in self-esteem in relation to peers which would offer protection from future use of alcohol. There are several possibilities available for teens to find such peer groups. A.A. meetings, both regular meetings and meetings specifically targeted to young people would offer the peer support needed. In school, recovery groups of newly sober teens would present the possibility of a new peer group with a common goal of abstaining from alcohol. Both these options would provide an opportunity to increase self-esteem.

Counselors and school personnel might investigate the possiblity of setting up Student Assistance Programs in the middle, junior or senior high schools. Such programs would serve as early intervention, in-school "treatment" for substance abusing teens, or children at risk for substance abuse due to familial or other factors. One of these other factors would be low self-esteem. A Student Assistance Program would be an in-school program to provide counseling and referral for treatment if in-school counseling did not affect a change in the student's alcohol or drug use. As part of the program, self-esteem building techniques of the type previously mentioned would be applied.

5.10 Conclusion to Implications

It appears possible to statistically predict through the use of self-esteem assessment those adolescents and children who are at higher risk for alcohol abuse. It would make sense to identify these high risk children and focus efforts to raise their self-esteem. This raising of self-esteem would then offer some protection from future alcohol abuse.

5.11 Recommendations for Further Study

The research cited in the review of the literature and the findings presented in this paper lead to four recommendations for areas of further investigation.

1. Investigation into gender and ethnic/cultural differences in the measure of and expression of self-esteem

Much of the research into the development and measurement of self-esteem was conducted before the 1980s. Since then there have been important developmental studies done by such researchers as Giligan (1983) that might shed light on the development of self-esteem from a feminist perspective.

The data in this present study suggest that after grade 7 adolescent females rate their self-esteem significantly lower than adolescent males. It might be useful to find methods to address this discrepancy between males and females in their expression of self-esteem.

Although the data in this study were not analyzed regarding ethnic differences in self-esteem or alcohol use there is a body of research relating self-esteem to ethnicity, culture and alcohol abuse that needs to be studied

2. More research into strategies to build self-esteem

Since the conclusion of this research paper suggests that for adolescents in certain grades, there is an interaction between self-esteem and alcohol use with low self-esteem frequently preceding alcohol abuse and also since self-esteem is cited by numerous researchers as a factor in the prevention of substance abuse as well as a preventative factor in other "deviant" behavior it would behoove society to develop more strategies to enhance it. However this research offers no guarantees of prevention, it must be kept in mind that self-esteem was a predictor in only two of the six cross lags.

There is an abundance of research that indicates what the antecedents of self-esteem are. There needs to be research to determine if the factors that are important in these antecedents can be increased. Are there technical skills that parents and teachers can acquire through education or therapy to build self-esteem in themselves and children? This researcher believes that there are and that it is possible to develop programs to do so. Further study in this area is recommended.

It is well documented by Coopersmith (1967) and Rosenberg (1965) that higher achievement in school is associated with higher levels of self-esteem. The current school reform movement must include attention to this. With increased self-esteem more students might achieve to their unique potentials.

3) Additional prospective longitudinal studies investigating the relationship between self-esteem and alcohol use

While it is clear that a correlation exists between these two variables, and it has been suggested by the findings of this study that low self-esteem precedes alcohol abuse additional research is needed to corroborate this finding with larger samples and equal samples of males and females with lower drop out rates.

This current research was of a quasi-experimental design. It is recommended that longitudinal research with an experimental design be conducted. That is, studies with subjects ramdomly assigned to experimental and control groups and then an intervention to increase self-esteem given to the experimental group. By measuring the two variables, alcohol use and self-esteem, over time, both before and after the intervention a causal relationship may be found.

4) Are there other variables that are influencing both self-esteem and alcohol abuse?

This appears to be the question that must next be answered. It has been shown that there is a correlation between the variables and that variation in self-esteem precedes variation in alcohol involvement. In order to move toward a model of causality it must be determined if the relationship between these two variables is spurious or not.

There were a few subjects in the study with initial low self-esteem who did not move toward high levels of alcohol use. What were the factors that protected them? Or did they engage in some other self defeating behavior? There were some subjects with medium or high levels of self-esteem who did report high levels of alcohol use. What factors protected their self-esteem? Would a drop in self-esteem have been reported if they were followed longer?

In summary it will be stated that no one single variable will provide all the answers, but that from the evidence presented in this paper self-esteem is one of the salient interactive and statistically predictive factors to be considered in the study of alcohol involvement.

APPENCICES

APPENDIX A

ADOLESCENT ALCOHOL INVOLVEMENT SCALE (AAIS)

CIRCLE THE LETTER OF THE ANSWER TO EACH QUESTION WHICH BEST DESCRIBES YOUR DRINKING

1. How often do you drink?

a. never
b. once or twice a year
c. once or twice a month
d. every weekend
e. several times a week
f. every day

2. When did you have your last drink?

a. never drank
b. not for over a year
c. between 6 months and 1 year ago
d. several weeks ago
e. last week
f. yesterday
g. today

3. I usually start to drink because:

a. I like the taste
b. to be like my friends
c. to feel like an adult
d. I feel nervous, tense, full of worries or problems
e. I feel sad, lonely, sorry for myself

4. What do you drink?

a. wine
b. beer
c. mixed-drinks
d. hard liquor
e. a substitute for alcohol -- paint thinner, sterno, cough medicine, mouth wash, hair tonic, etc.

5. How do you get your drinks?

a. supervised by parents or relatives
b. from brothers or sisters
c. from home without parents knowledge
d. from friends or others
e. buy it with false identification

6. When did you take your first drink?

a. never
b. recently
c. after age 15
d. at ages 14 or 15
e. between ages 10 - 13
f. before age 10

7. What time of day do you usually drink?

a. with meals
b. at night
c. afternoons
d. mostly in the morning or when I first awake
e. I often get up during my sleep and drink

8. Why did you take your first drink?

a. curiosity
b. parents or relatives offered
c. friends encouraged me
d. to feel more like an adult
e. to get drunk or high

9. How much do you drink when you do drink?

a. 1 drink
b. 2 drinks
c. 3 - 6 drinks
d. 6 or more drinks
e. until "high" or drunk

10. Whom do you drink with?

a. parents or relatives only
b. with brothers or sisters only
c. with friend own age
d. with older friends
e. alone

11. What is the greatest effect you have had from alcohol?

a. none - no effect
b. has interfered with talking to someone
c. has prevented me from having a good time
d. has interfered with my school work
e. have lost friends because of drinking
f. has gotten me into trouble at home
g. was in a fight or destroyed property
h. has resulted in an accident, injury, arrest, or being punished at school for drinking

13. How do you feel about your drinking?

a. no problem at all
b. I can control it and set limits for myself
c. I can control myself, but my friends easly influence me
d. I often feel bad about my drinking
e. I need help to control myself
f. I have had professional help to control my drinking

14. How do others see you?

a. can't say, or a normal drinker for my age
b. when I drink I tend to neglect my family or friends
c. my family or friends advise me to control or cut down on my drinking
d. my family or friend tell me to get help for my drinking
e. my family or friends have already gone for help for my drinking

Scoring Instructions:

The highest total score is 79. An a response is scored 1 (except on questions 1, 2, 6, 12, 13 and 14, on which a = 0); b = 2; c = 3; and so on to h = 8. When more than one response is circled, the one with the higher or highest score is used. An unanswered question is scored 0.

APPENDIX B

COOPERSMITH SELF-ESTEEM INVENTORY (SEI)

Please mark each statement in the following way:

If the stateeent describes how you usually feel, put a check mark in the column, "Like Me".

If the statement does not describe how you usually feel, put a check mark in the column, "Unlike Me"

There are no right or wrong answers.

		Like Me	Unlike Me
1.	I spend a lot of time daydreaming.	_____	_____
2.	I'm pretty sure of myself.	_____	_____
3.	I often wish I were someone else.	_____	_____
4.	I'm easy to like.	_____	_____
5.	My parents and I have a lot of fun together.	_____	_____
6.	I never worry about anything.	_____	_____
7.	I find it very hard to talk in front of the class.	_____	_____
8.	I wish I were younger.	_____	_____
9.	There are lots of things about myself I'd change if I could.	_____	_____
10.	I can make up my mind without too much trouble.	_____	_____
11.	I'm a lot of fun to be with.	_____	_____
12.	I get upset easily at home.	_____	_____
13.	I always do the right thing.	_____	_____
14.	I'm proud of my school work.	_____	_____

15.	Someone always has to tell me what to do.	_____	_____
16.	It takes me a long time to get used to anything new.	_____	_____
17.	I'm often sorry for the things I do.	_____	_____
18.	I'm popular with kids my own age.	_____	_____
19.	My parents usually consider my feelings.	_____	_____
20.	I'm never happy.	_____	_____
21.	I'm doing the best work I can.	_____	_____
22.	I give in very easily.	_____	_____
23.	I can usually take care of myself.	_____	_____
24.	I'm pretty happy.	_____	_____
25.	I would rather play with children younger than me.	_____	_____
26.	My parents expect too much of me.	_____	_____
27.	I like eveyrone I know.	_____	_____
28.	I like to be called on in class.	_____	_____
29.	I understand myself.	_____	_____
30.	It's pretty tough to be me.	_____	_____
31.	Things are all mixed up in my life.	_____	_____
32.	Kids usually follow my ideas.	_____	_____
33.	No one pays much attention to me at home.	_____	_____
34.	I never get scolded.	_____	_____

35.	I'm not doing as well in school as I'd like to.	_____	_____
36.	I can make up my mind and stick to it.	_____	_____
37.	I really don't like being a boy/girl.	_____	_____
38.	I have a low opinion of myself.	_____	_____
39.	I don't like to be with other people.	_____	_____
40.	There are many times when I'd like to leave home.	_____	_____
41.	I'm never shy.	_____	_____
42.	I often feel upset in school.	_____	_____
43.	I often feel ashamed of myself.	_____	_____
44.	I'm not as nice looking as most people.	_____	_____
45.	If I have something to say, I usually say it.	_____	_____
46.	Kids pick on me very often.	_____	_____
47.	My parents understand me.	_____	_____
48.	I always tell the truth.	_____	_____
49.	My teacher makes me feel I'm not good enough.	_____	_____
50.	I don't care what happens to me.	_____	_____
51.	I'm a failure.	_____	_____
52.	I get upset easily when I'm scolded.	_____	_____
53.	Most people are better liked than I am.	_____	_____
54.	I usually feel as if my parents are pushing me.	_____	_____
55.	I always know what to say to people.	_____	_____

56.	I often get discouraged in school.	_____	_____
57.	Things usually don't bother me.	_____	_____
58.	I can't be depended on.	_____	_____

BIBLIOGRAPHY

Adair, F.L. (1984). Coopersmith Self-Esteem Inventories. In D.J. Keyser & R.C. Sweetland (Eds.), Test Critiques, (Vol. I, pp. 226 - 232). Kansas City, MO: Test Corporation of America.

Allworth, J. C. (1978). Adolescent alcohol abuse as a symptom of social alienation and identity crisis. Journal of Studies on Alcohol, 39, 1514.

Amanat, E. and Butler, C. (1984). Opressive behaviors in the families of depressed children. Family Therapy, 11, 65-77.

Amato, P. R. (1986). Father involvement and the self-esteem of children and adolescents. Austrailian Journal of Sex, Marriage and Family, 7(1), 6-16.

Amato, P. R. (1986). Marital conflict, the parent child relationship and child self-esteem. Family Relations Journal of Applied Family and Child Studies, 35 (3), 403-410.

Amato, P.R. and Ochiltree, G. (1986). Family resources and the development of child competence. Journal of Marriage and The Family, 48(1), 47-56.

Appleby, A. N. (1981). Alternatives for Adolescents. Report from the First Pan-Pacific Conference on Drugs and Alcohol. Canberra, Austrailia.

Avasthi, S. (1991, February 21). Study reveals girls lose self-esteem as adolescents. Guidepost pp. 1, 10, 13.

Bachman, J. G. and O'Malley, P. H. (1986). Self-concepts, self-esteem, and educational experiences: The frog pond revisited (again). Journal of Personality and Social Psychology, 50, 35-46.

Bauman, K. E. (1986). Research Methods for Community Health And Welfare:An Introduction. New York: Oxford University Press.

Bauman, K. E. (1986). The consequences expected from alcohol and drinking behavior: A factor analysis of data from a panel study of adolescents. International Journal of Addictions, 20, 1635-1647.

Baumrind, D. (1985). Familial antecedents of adolescent drug use: A developmental perspective. National Institute on Drug Abuse Research Monograph Series 56, 13-44.

Beck, A. T. (1967). Depression: Clinical, Experimantal, and Theoretical Aspects. New York: Harper and Row.

Bentler, P. M. (1987). Drug use and personality in adolescence and young adulthood: Structural models with non-normal variables. Child Development, 58, 65-79.

Berg, N. L. (1971). Effects of alcohol intoxication on self concept: Studies of alcoholics and controls in laboratory conditions. Journal of Studies on Alcohol, 32, 442-453.

Blane, H. T., Hill, M. J. and Brown, E. (1968). Alienation, self-esteem, and attitudes toward drinking in high school students. Quarterly Journal of Studies on Alcohol, 29, 350-354

Blum, E. M. (1966). Psychoanalytical views of alcoholism: A review. Quarterly Journal of Studies on Alcohol, 27, 259-299.

Briggs, D. C. (1970). Your Child's Self-Esteem. New York: Doubleday.

Brook, J. S., Gordon, A. S., et. el. (1986). Some models and mechanics for explaining the impact of maternal and adolescent characteristics on adolescent stage of drug use. Developmental Psychology, 22, 460-467.

Brown, F. G. (1983). Principles of Educational and Psychological Testing. New York: Holt, Rinehart and Winston.

Brown, R. (1980). A personality measure in gamma and delta alcoholics: a brief note. Journal of Clinical Psychology, 36 (1), 345-346.

Bry, B., McKeon, P. & Pandina, R. (1982). Extent of drug use as a function of a number of risk factors. Journal of Abnormal Psychology, 91, 273-279.

Brye, B. H. (1983). Substance abuse in women: Etiology and prevention. Special issue: Social and psychological problems of women: Prevention and crisis intervention. Issues in Mental Health Nursing, 5, 253-272.

Byrne, B. M. and Shaveelson, R. J. (1987). Adolescent self-concept: Testing the assumption of equivalent strusture across gender. American Educational Research Journal, 24, 365-385.

Capuzzi, D. & Lecow, L. L. (1983). Social and personal determinants of adolescent use and abuse of alcohol and marijuana. The Personnel and Guidance Journal, 62, 199-205.

Carrol, J. F. X., Klein, M. I. and Santo Y. (1978). Comparison of the similarities of male alcoholics and addicts. Journal of Counseling and Clinical Psychology, 46, 575-576.

Charalampous, K. D., Ford, B. K. and Sinnker, J. T. (1974). Self-esteem in alcoholics and non-alcoholics. Journal of Studies on Alcohol, 37, 990-994.

Chassin, L., Tetzleff, C. & Hersey, M. (1985). Self-image and social image factors in adolescent alcohol use. Journal of Studies on Alcohol, 46, 39-47.

Chiu, L.H. (1988). Measures of self-esteem for school age children. Journal of Counseling and Development, 66, 298-301.

Clark, J. I. (1978). Self-Esteem: A Family Affair. Minneapolis, MN: Winston Press.

Clarke, S. K. (1974). Self-esteem in men and women alcoholics. Journal of Studies on Alcohol, 35, 1380-1381.

Coopersmith, S. (1959). A method for determining types of self-esteem. Journal of Abnormal and Social Psychology, 59, 87-94.

Coopersmith, S. (1967). The Antecedents of Self-Esteem. San Francisco: W. H. Freeman and Company.

Coopersmith, S. (1981). Self-Esteem Inventories. Palo Alto, California: Consulting Psychologists Press, Inc.

Cowan, R. Altmann, H. and Psyh, F. (1978). A validity study of selected self-concept instruments. Measurement and Evaluation in Guidance, 10, 211-221.

Crandall, R. (1973). The measurement of self-esteem and related constructs. In J. P. Robinson and P. R. Shaver (Eds.), Measures of Social Psychological Attitudes. Ann Arbor, MI: Institute for Social Research.

Daly, M. J. and Burton, R. L. (1983). Self-esteem and irrational beliefs: an exploratory investigation with implications for counseling. Journal of Counseling Psychology, 20, 361-366.

Demo, D. H., Small, S. A. and Savin-Williams, R. C. (1987). Family relations and the self-esteem of adolescents and their parents. Journal of Marriage and The Family, 49, 705-715.

Denzin, N. K. (1980). The Research Act:A Theoretical Introduction to Sociological Methods. Chicago: Aldine Publishing Company.

Diamond, D. L. and Wilsnack, S. C. (1978). Alcohol abuse among lesbians: A descriptive study. Journal of Homosexuality, 4(2), 123-142.

Elkind, D. (1972, September 24). Good meor bad me: The Sullivan approach to personality. New York Times Magizine.

Ellis, A. (1962). Reason and Emotion in Psychotherapy. New York: Lyle Stuart.

Ellis, A. (1969). The Essence of Rational Psychotherapy: A Comprehensive Appraoch to Treatment. New York: Institute for Rational Living.

Erikson, E. (1968). Identity: Youth and Crisis. New York: W. W. Norton & Co., Inc.

Eskilson, A., Wiley, M. G., Muelbauer, G. and Dodder, L. (1986). Parental pressure, self-esteem and adolescent reported deviance: Bending the twig too far. Adolescence, 21, 501-515.

Faunce, W. A. (1984). School achievement, social status, and self-esteem. Social Psychology Quarterly, 47, 3-14.

Ferguson, D. L., Freedman, M. and Ferguson, P. E. (1977). Developmental self concept and self reported drug use. Psychological Reports, 41, 531-541.

Frank, J. D. (1961). Persuasion and Healing: A Comparative Study of Psychhotherapy. Baltimore: Johns Hopkins University Press.

Fraser, M. (1984). Family, school, and peer correlates of adolescent drug abuse. Social Service Review, Sept. 84, 434-445.

Fullerton, W. S. (1972). Self disclosure, self-esteem and risk taking: A study of their convergent and discriminant validity in elementary school children. Doctoral Dissertation, University of California, Berkley.

Gibbs, J. T. (1982). Psychosocial factors related to substance abuse among delinquent females: Implications for prevention and treatment. American Journal of Orthopsychiatry, 52, 261-271.

Gilligan, C. (1983). In A Different Voice. Cambridge MA: Harvard University Press.

Glueck, S. & Glueck, E. (1950). Unravelling Juvenile Delinquency. New York: The Commonwealth Fund.

Good, T. and Brophy, J. (1987). Looking in Classrooms, 4th Edition. New York: Harper and Row.

Gossop, M. (1976). Drug Dependence and self-esteem. The International Journal of Addictions, 11, 741-753.

Gross, F. W. and Adler, L. O. (1970). Aspects of alcoholics' self concepts as measured by the Tennessee Self Concept Scale. Psycholgical Reports, 27, 431-4344.

Harlow, H. F. (1971). Learning to Love. New York: Ballantine Books.

Heilbrum, A. B., Jr. and Schwartz, H. L. (1980). Self esteem and self-reinforcement in men alcoholics: An explanation of a paradox. Journal of Studies on Alcohol, 41(11), 1134-1141.

Hoelter, J. W. and Harper, L. (1987). Structural and interpersonal family influences on adolescent self-conception. Journal of Marriage and The Family, 49(1), 129-139.

Hoffman, H. (1970). Personality characteristics of alcoholics in relation to age. Psychological Reports, 27, 167-171.

Huntwork, D. and Ferguson, L. W. (1977). Drug use and deviation from self concept norms. Journal of Abnormal Child Psychiatry, 5, 53-60.

Jellenik, E. M. (1952). Phases of alcohol addiction. Quarterly Journal of Studies on Alcohol, 13, 673-684.

Jessor, R. and Jessor, S. L. (1977). Problem Behavior and Psychosocial Development: A Longitudinal Study of Youth. New York: Academic Press.

Johnston, L. D., O'Malley, P. M., and Bachman, J. G., (1987). National Trends in Drug Use And Related Factors among American High School Students And Young Adults, 1975-1986. Rockville, MD: National Institute on Drug Abuse.

Jonah, B. A. (1986). Accident risk and risk-taking behavior among young drivers. Accident Analysis and Prevention, 18, 255-271.

Jones, R. G. (1969). A factored measure of Ellis' irrational belief system, with personality and maladjustment correlates. (Doctoral Dissertation, Texas Technical College, 1968). Dissertation Abstracts International, Unniversity Microfilms No. 69-6443.

Kaplan, H. B. (1977). Increase in self rejection and continuing/discontinuing deviant response. Journal of Youth and Adolescence, 6, 77-87.

Kenny D. A. and Harackiewicz, J. M. (1979). Cross-lagged panel Correlation: practice and promise. Journal of Applied Psychology, 64 (4), 372-379.

Kokenes, B. (1978). Grade level differences in factors of self-esteem. Developmental Psychology, 10, 954-958.

Malvin, J. H., Moskowitz, J. M. et. al. (1984). Teacher training in affective education for the primary prevention of adolescent drug abuse. American Journal of Drug and Alcohol Abuse, 10, 223-235.

Mangeniello, J. A. (1978). Opiate addiction: A study identifying three systematically related psychological correlates. International Journal of Addictions, 13(5), 839-847.

Mayer, J. and Filstead, W. J. (1979). The adolescent alcohol involvement scale: An instrument for measuring adolescents' use and misuse of alcohol. Journal of Studies on Alcohol, 40, 291-300.

Mead, G. H. (1934). Mind, Self and Society. Chicago: University of Chicago Press.

Mitic, W. R. (1980). Alcohol use and self-esteem of adolescents. Journal of Drug Education. 10, 197-208.

National Clearinghouse for Alcohol Information. (1983). Questions and answers about teenage alcohol use and abuse. Alcohol Health and Research World, 7, 64-66.

Newcomb, M. D., Maddahian, E, & Bentler, P. M. (1986). Risk factors for drug use among adolescents: Concurrent and longitudinal analyses. American Journal of Public Health, 76, 525-531.

Nocks, J. J. and Bradley, D. L. (1969). Self-esteem in an alcoholic population. Diseases of The Nervous System, 30, 611-617.

Norem-Hebeisen, A. A. & Martin, F. B. (1980). Parental Support as an Approach to Primary Prevention of Chemical Abuse. Final project report submitted to the St. Paul Companies. St. Paul MN: The Companies.

Oetting, E. R. & Beauvais, F. (1987). Peer cluster theory, socialization characteristics, and adolescent drug use: A path analysis. Journal of Counseling Psychology, 34 (2), 205-213.

Oetting, E. R. & Beauvais, F. (1988). Adolescent drug use and the counselor. The School Counselor, 36, 11-16.

Pandina, R. J. & Schuele, J. A. (1983). Psychosocial correlates of alcohol and drug use of adolescent students and adolescents in treatment. Journal of Studies on Alcohol, 44, 950-973.

Parington, J. T. (1970). Dr. Jecklyll and Mr. High: Multi-dimensional scalings of alcoholics' self evaluations. Journal of Abnormal Psychology, 75, 131-138.

Perry, C. L. & Murray, D. M. (1986). Prevention of adolescent drug abuse: Implications from etiological, devèlopmental, behavioral, and environmental models. Journal of Primary Prevention, 6, 31-52.

Peterson, C. & Austin, J. T. (1985). Coopersmith Self-Esteem Inventories. In J. V. Mitchell, Jr. (Ed). Ninth Mental Measurements Yearbook (Vol. I, pp. 396-397). Lincoln: University of Nebraska, Buros Institute of Mental Measurement.

Prewitt Diaz, J. O. (1984). A cross-cultural study of the reliability of the Coopersmith Self-Esteem Inventory. Educational and Psychological Measurement, 44, 575-581.

Pushkash, N. and Quereshi, M. Y. (1980). Perception of self and significant others by male and female alcoholics. Journal of Clinical Psychology, 36, 571-576.

Reasoner, R. W. (1983). Enhancement of self-esteem in children and adolescents. Family and Community Health, 6, 51-64.

Rees, C. D. & Wilborn, B. L. (1983). Correlates of drug abuse in adolescents: A comparison of families of drug abusers with families of nondrug abusers. Journal of Youth and Adolescence, 12, 55-63.

Ried, L. D., Martinson, O. B. & Weaver, L. C. (1987). Factors associated with drug use of fifth through eighth grade students. Journal of Drug Education, 17, 149-161.

Rosenberg, M. (1965). Society and The Adolescent Self-Image. Princeton, N.J.: Princeton University Press.

Rosenberg, M. (1979). Conceiving the Self. New York: Basic Books, Inc.

Segal, B. B. (1975). Personality factors related to drug and alcohol use. In D. J. Lettieri (Ed.) Predicting Adolescent Drug Abuse: A Review of Issues, Methods, and Correlates. (Research Issue 11): Rockville, MD: National Institute on Drug Abuse.

Segal, B., Rhenberg, G. and Sterling, S., (1975). Self concept and alcohol use in female college students. Journal of Alcohol and Drug Education, 20, 17-22.

Sewell, T. E. (1985). Coopersmith Self-Esteem Inventories. In J. V. Mitchell, Jr. (Ed), Ninth Mental Measurements Yearbook (Vol. I, 397-398). Lincoln: University of Nebraska, Buros Institute of Mental Measurement.

Simmons, R. G., Burgeson, R., Carlton, F. and Blyth, D. A. (1987). The impact of cumulative change in early adolescence. Child Development, 58, 1220-1234.

Skaalvik, E. M. (1986). Age trends in male and female self-esteem in Norwegian samples. Scandanavian Journal of Educational Research, 30, 107-119.

Smets, A. C. and Hartup, W. W. (1988). Systems and symptoms: Family coehesion/adapability and childhood behavior problems. Journal of Abnormal Child Psychology. 16 (2), 233-246.

Spatz, K. and Johnston (1973). Internal consistency of the Coopersmith Self-Esteem Inventory. Educational and Psychological Measurement, 33, 875-876.

Spector, P. E. (1981). Research Designs. Beverly Hills, CA: Sage Publications.

Stanwyck, D. J. (1983). Self-esteem through the life span. Family and Community Health, 6, 11-28.

Stein, J. A., Newcomb, M. D. & Bentler, P. M. (1987). Personality and drug use: Reciprocal effects across four years. Journal of Personality and Individual Differences, 8, 419-430.

Streit, F., Halstead, D. L., & Pascale, P. J. (1974). Differences among youthful users and nonusers of drugs based on their perceptions of parental behavior. International Journal of The Addictions, 9(5), 749-755.

Streit, F. (1978). Parents and Problems: Through The Eyes of Youth. Highland Park, NJ: Essence Publications.

Tahka, V. (1966). The Alcoholic Personality. Helsinki: Finnish Foundation for Alcohol Studies.

Thomas, I and Raj, H. S. (1985). A factor analytical study on the antecedents of self-esteem. Psychological Studies, 30, 97-101.

Thorensen, C. E. & Eaglestoo, J. R. (1983). Chronic stress in children and adolescents. Theory into Practice, 22, 48-56.

Thorne, C. R. & DeBlassie (1985). Adolescent substance abuse. Adolescence, 20, 335-347.

Twerski, A. J. (1986). Presentation at the 13th annual South Carolina School of Alcohol and Drug Studies.

Vaillant, G. E. (1983). The Natural History of Alcoholism. Cambridge, Massachusetts: Harvard University Press.

Vanderpool, J. A. (1969). Alcoholism and self concept. Journal of Studies on Alcohol, 30, 59-77.

Williams, A. F. (1965). Self-concept of college problem drinkers: A comparison with alcoholics. Journal of Studies on Alcohol, 26, 586-594.

Wood, H. P. and Duffey, E. L. (1966). Psychological features in alcoholic women. American Journal of Psychiatry, 123, 341-345.

Wright, L. S. (1985). High school polydrug users and abusers. Adolescence, 20, 853-861.

Yakichuk, A. J. (1978). A study of the self-concept evaluations of alcoholics and non-alcoholics. Journal of Drug Education, 8(1), 41-49.

Yanish, D. L. & Battle, J. (1985). Relationship between self-esteem, depression and alcohol consumption among adolescents. Psychological Reports, 57, 331-334.

Zucker, R. A. & Lisansky Gomberg, E. S. (1986). Etiology of alcoholism reconsidered: The case for a biopsychosocial process. Journal of The American Psychological Association, 41, 783 - 793.